

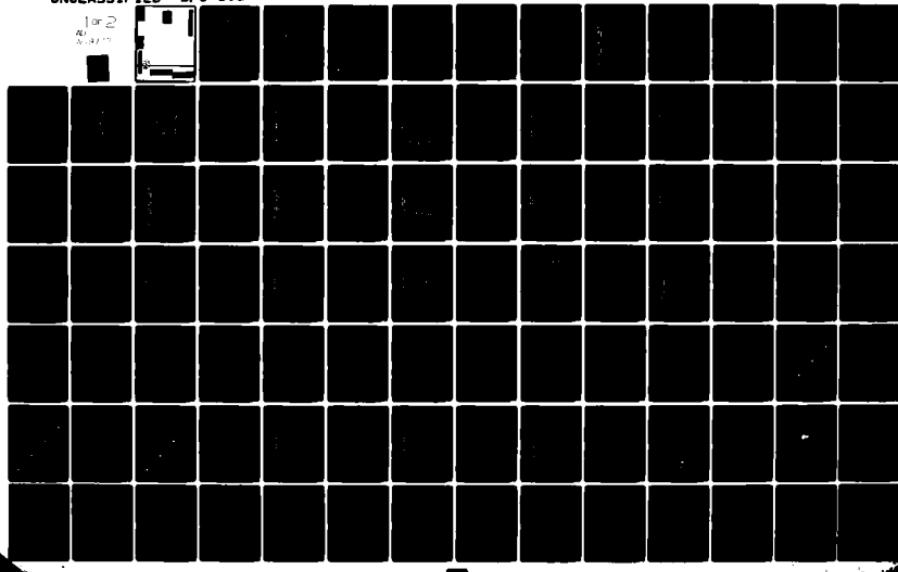
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CONCEPTUAL FRAMEWORK FOR FEMA MOBILIZATION AND RESOURCE MANAGEMENT RESEARCH

FINAL REPORT
SBC 696

March 1981

By Leonard Sullivan, Jr.
W. Scott Payne

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For Federal Emergency Management Agency
Washington, D.C. 20472

Contract No. DCPAU-17-0-C-0274
Mr. George Divine Contracting Officer's Technical Representative
Work Unit No. 4154A

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ABSTRACT

This report develops a conceptual framework in which FEMA can build and coordinate a multi-year research and analysis effort concerning mobilization and resource policy options. The study suggests a workable definition of mobilization, develops a number of mobilization tenets, describes the range of emergency mobilization phases, and the various segments of the national entity that could be involved in emergency responses. The study provides a taxonomy of the decisionmaking process in a mobilization response, some illustrative escalation steps for selected facets of the national entity, policy options for civil and economic emergencies, and a number of conclusions.

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For
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Washington, D.C. 20472

Contract No. DCPA01-78-C-0274
Mr. George Divine
Contracting Officer's Technical Representative
Work Unit No. 4154A

CONTENTS

	Page
EXECUTIVE SUMMARY	1
INTRODUCTION	11
CONCEPTUAL FRAMEWORK FOR FEMA RESEARCH	13
BASIC MOBILIZATION TENETS	15
CHART SET A: Major Phases for Conceptualizing Emergency Mobilization Planning	25
CHART SET B: Federal Responsibilities for Emergency Preparedness	47
CHART SET C: Complete Taxonomy for National Mobilization Analysis	63
CHART SET D: Illustrative Escalation Steps for Mobilization	69
CHART SET E: Policy Options	77
CONCLUSIONS	86
AREAS DESERVING FURTHER STUDY	87
STATE OF THE ART	88
ABBREVIATIONS	89
BIBLIOGRAPHY	90
DISTRIBUTION LIST	90

EXECUTIVE SUMMARY

A. PURPOSE

The Federal Emergency Management Agency (FEMA) asked System Planning Corporation (SPC) to develop a conceptual framework within which FEMA could build a comprehensive multi-year research and analysis effort concerning mobilization and resource policy options.

B. BACKGROUND

An earlier SPC study, Impact of Enhanced Mobilization Potential on Civil Preparedness Planning had, among other findings, noted the need to integrate national civil defense efforts with other industrial mobilization requirements, and indicated the growing need to revitalize our national mobilization capabilities. The consolidation of U.S. emergency preparedness oversight within the newly established FEMA provided additional impetus to develop an overview of total national mobilization capabilities and needs. These factors prompted the Office of Systems Analysis and Integration in FEMA to undertake the development of a framework in which the many facets of mobilization planning and implementation could be identified and related in order to assure the establishment, government wide, of a thorough and balanced FEMA research and analysis program.

C. APPROACH AND SCOPE

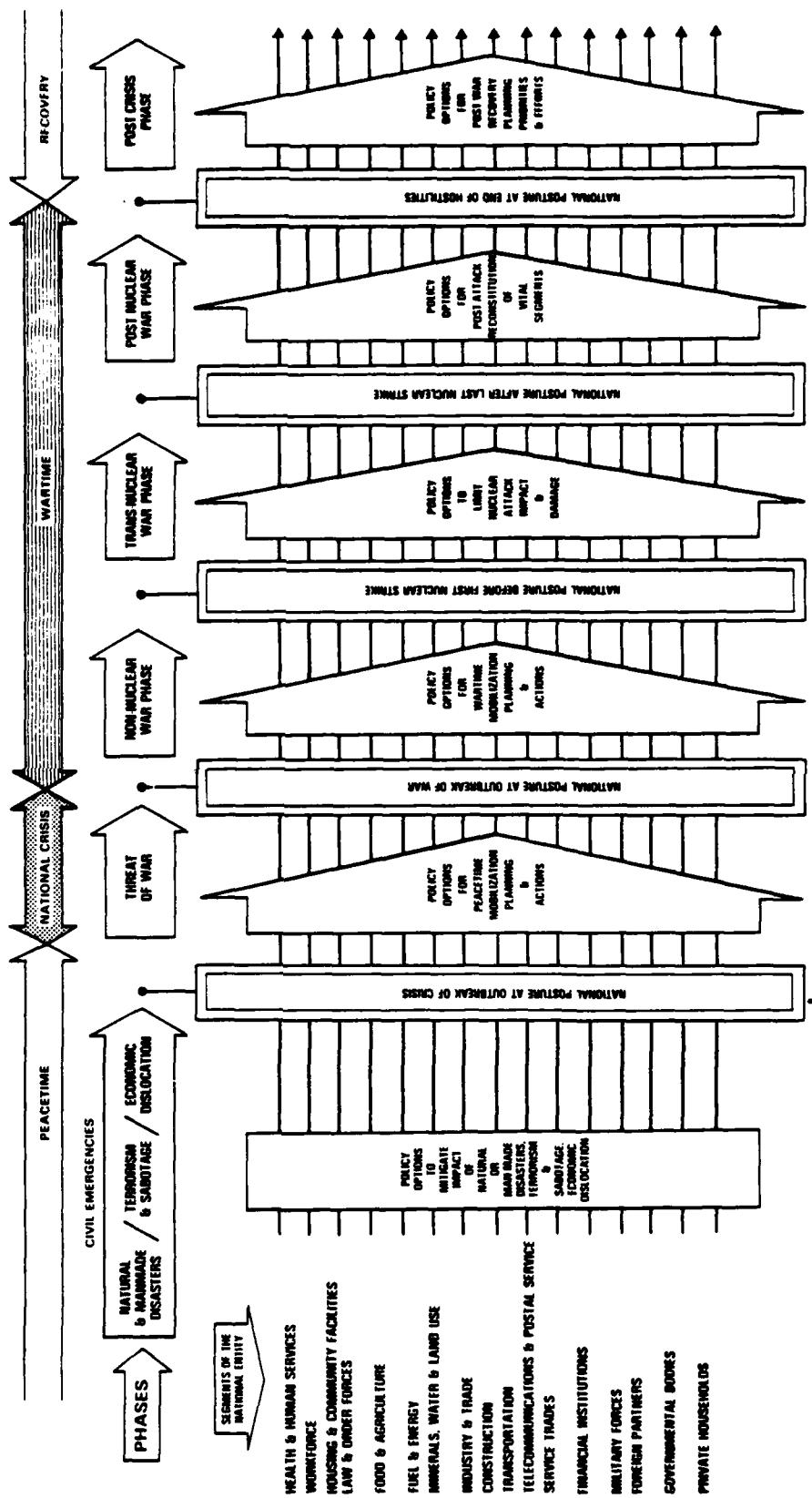
The conceptual framework has evolved into a matrix delineated by the two basic variables involved: the gamut of contingencies that the country might face; and the various segments of the national entity that could become involved in an emergency response. Both the vertical and horizontal subdivisions have

been through an extensive series of iterations. The matrix analysis, a literature review, previous SPC analyses, and extensive interviews and a workshop with government employees have led to the formulation of a number of tenets concerning the principles of mobilization. This set of tenets has also undergone a number of iterations. In their final form, they appear to highlight a broad set of policy issues that need to be addressed in defining overall national mobilization objectives. At present, there is no accepted definition of these objectives--or even of the term "mobilization" itself. The study team, for the purposes of this effort, has defined mobilization as any reallocation of national resources from the peacetime norm to mitigate the impact of some actual or anticipated threat, following some specific triggering event. These mobilization actions must encompass both preventative and remedial activities. They can provide a valuable instrument of national policy, which if evidently and impressively responsive, can strongly influence international perceptions of American resolve.

D. DISCUSSION AND FINDINGS

It appears clear that mobilization can be instrumental across a very broad range of contingencies involving social, environmental, economic, political, technological, and military crises. A series of eight crisis phases, not necessarily sequential nor present at all, were identified and characterized as to scope, duration, national impact, external assistance, warning time, predictability, and mitigation potential. As the total scope of these crises is defined, it becomes clear that the U.S. cannot afford to "optimize" around any one at the expense of the others, and that different contingencies will produce "worst case" mobilization demand for each national segment. It also becomes clear that maximum national mobilization capabilities should be based on some rational composite of worst cases, without contriving to force any small set of scenarios to represent all worst cases simultaneously. These phases and the segments of the national entity are shown in the schematic "conceptual framework" on the following page.

MAJOR PHASES FOR CONCEPTUALIZING EMERGENCY MOBILIZATION PLANNING



It is also evident that national resources may need to be mobilized from virtually any segment of the national entity to improve the posture of virtually any other segment. The major segments of the national entity have evolved into a series of categories reflecting, to a considerable degree, the various federal departments and agencies to which emergency functions have already been assigned. These emergency functions will largely be carried out by in-place institutions as extensions of those agencies' statutory responsibilities. Many mobilization aspects will be best carried out at the regional level with quite different emphases and demands in different regions. Examination of the agencies' emergency preparedness responsibilities, and their resource control and claimancy assignments, provides additional substance to the description of the national entity and to the usefulness of the framework for identifying areas of potential research.

An analysis of the decisionmaking process leading to a mobilization effort demonstrates the uncertainties involved, the broad scope of actions available, and the most likely constraints. Recognition that mobilization objectives will generally be established without full knowledge of the future--in attempts to avoid some unwanted future course of events--leads to the realization that mobilization "requirements" are at best speculative. Therefore a wide variety of alternatives should be considered concerning mission areas, levels, and scopes of mobilization efforts. Many of these would benefit from additional research.

This analysis has helped to demonstrate that mobilization options should be very broad, and should permit a range of graduated responses suitable to the fears and concerns at the time. These reactions should be expandable if circumstances worsen or fail to improve. Moreover, many preventive efforts may--if successful--generate unused capabilities. There seems to be a far better understanding of the scope and variability of possible mobilization demands within the civil agencies of the Federal Government than there is within the Defense Department, which has yet to really address either the magnitude of, or the

alternatives within, its possible mobilization needs. Understanding the full spectrum and interrelationship of the many various mobilization options, and their likely input-output ranges, could be a useful task for the new FEMA management. A dynamic and flexible national mobilization capability can become an increasingly valuable instrument of national policy.

The evaluation and trial utilization of the conceptual framework lends itself to the development of a broad variety of more detailed mobilization policy options, which could benefit from additional research and analysis across all the phases from civil and economic emergencies to pre-war and wartime mobilization to post-war national recovery. The potential advantages of multi-national mobilization efforts are highlighted. Other important policy options involve, for example: greater emphasis on strategic warning, planning for a civil defense shelter surge; considering post-nuclear phase alliance shift; negotiating national recovery treaties with potential survivor nations; and the stockpiling of surplus materials and tools.

This research effort has purposely been directed towards the broadest possible treatment of the overall national mobilization issue. In fact, it appears to be the lack of a conceptual approach to mobilization needs and benefits which has limited national attention to this important area over the past two decades. Clearly, it is not possible to develop a conceptual framework for research and analysis in this area unless there is agreement on the scope and value of such a national program. In this respect, it is hoped that this relatively small research effort will stimulate additional attention to this vital area at the national level.

E. CONCLUSIONS

1. The general concept of the "conceptual framework" as outlined in this report should be accepted by FEMA management as a reasonable portrayal of the scope of mobilization issues for which this country should be prepared, and for which FEMA-encouraged or -supported research is justified.
2. Many of the basic "tenets" outlined at the beginning of this report should be incorporated into some new top-level Federal Emergency Preparedness Policy and Planning Guidance document, for dissemination throughout the federal bureaucracy involved in emergency preparedness and mobilization activities.
3. The basic need of using national emergency preparedness and mobilization capabilities as a major instrument of national policy should be enunciated by the President and certified by the Congress.
4. The Office of Management and Budget should assure that all Federal departments and agencies have appropriate emergency preparedness organizations with sufficient funding, staffing, and visibility to accomplish their missions in this era of high national vulnerabilities and neutral power balance.
5. The Federal Emergency Management Agency should be encouraged to step up to the full range of responsibilities implicit in its mandate. To the extent that current legislation hampers the execution of these responsibilities, new language should be proposed for Congressional consideration.
6. The Congress should be encouraged to provide delegate agency funding sources so that FEMA can stimulate needed research, planning, and emergency preparedness without requesting that the federal departments reprogram existing funds.
7. The National Security Council should be encouraged to adopt a more realistic range of contingencies and emergency phases (not detailed scenarios) on which to base mobilization planning.

F. AREAS DESERVING FURTHER STUDY

There is a need for a substantial amount of research and analysis pertinent to establishing a meaningful contemporary national mobilization capability. Among those policy programs that appear to deserve high priority at the present time are the following:

1. The development of a more realistic set of contingencies against which to authorize national mobilization planning. This work would involve the development of the fullest possible spectrum of crisis/conflict situations and their consequences, synthesizing a comprehensive set of partial and maximum civil/military mobilization demands, and evaluating the impact of adopting these various "limit cases" on U.S. mobilization plans and policies.
2. A comprehensive search of existing documentation and legislation to uncover and highlight current conflicts and omissions in both laws and national guidance, which inhibit the development of a truly vital national emergency capability.
3. The development of a suitable, highly flexible management technique and organization within the FEMA by which to:
 - Provide suitable early warning and trigger mechanisms to assure the initiations of appropriate mobilization efforts in the most timely fashion
 - Provide responsive assessments of the implications of various threatened crises and/or emergencies with full understanding of the subtle interrelations between the various strands of the national fabric
 - Guide and coordinate the overall activities of the Federal Government in preparation for, or in response to, crises and emergencies warranting federal attention and inter-departmental liaison.

G. ACKNOWLEDGEMENTS

Responsibility for the content of this report lies solely with System Planning Corporation and its principal investigators who prepared it. Nonetheless, this analysis drew heavily from a series of interviews with knowledgeable people within the Federal Government who exercise day-to-day responsibilities for emergency preparedness and mobilization planning. Moreover, a preliminary draft of this report was the subject of a day-long workshop in which many of those originally interviewed provided their comments and suggestions. To the extent that the report has value, much of the credit belongs to those listed below. To the extent that it falls short of the mark, we may have misinterpreted their advice or misjudged where the consensus lay. In any event, we are indebted to:

Mr. Rand Beers, Department of State
Mr. David Bensen, Federal Emergency Management Agency
Mr. Robert Covington, Department of Labor
Mr. Dana Dennison, Department of the Treasury
Mr. George Divine, Federal Emergency Management Agency
Mr. Robert Doherty, Department of Health and Human Services
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Col. Darrel W. Lundquist, Department of Defense
Mr. Bruce MacDonald, Department of State
Mr. Robert Merchant, Department of the Treasury
Mr. F. Joseph Russo, Federal Emergency Management Agency
Mr. Thomas Schneider, Department of Transportation
Mr. Frank Shaw, Federal Emergency Management Agency consultant
LtCol. Fred Sineath, Joint Chiefs of Staff
Major Billy L. Speed, Joint Chiefs of Staff

ANNOTATED BRIEFING

**CONCEPTUAL FRAMEWORK FOR FEMA
MOBILIZATION AND RESOURCE MANAGEMENT RESEARCH**

STUDY OBJECTIVES

- Develop **CONCEPTUAL FRAMEWORK** in which to build a comprehensive multi-year research and analysis effort concerning mobilization and resource policy options, by:
 - developing a **BROAD RANGE OF SCENARIOS** illustrative of all aspects and phases of a crisis potentially leading up to and through a major nuclear war;
 - developing a contemporary listing of all **SEGMENTS OF THE NATIONAL ENTITY** that should be involved in emergency preparedness planning;
 - developing **POLICY OPTIONS** to produce differing national postures during the pre-attack phase, and determining their impact on emergency preparedness to mitigate the effects of subsequent attacks; and
 - identifying policy options that appear to enhance the essential **CONTINUITY OF GOVERNMENT** functions across the spectrum of contingencies identified above.

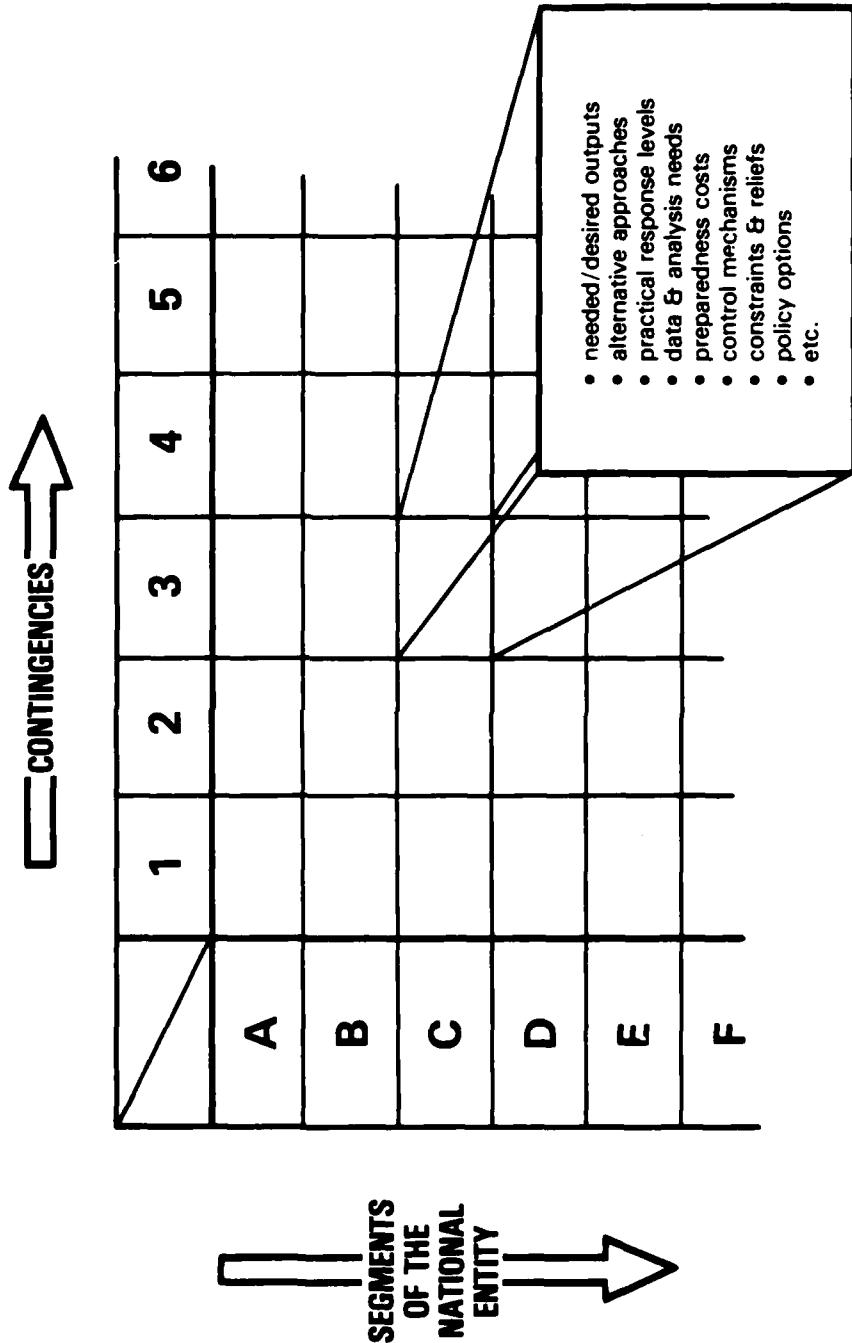
INTRODUCTION

This briefing report summarizes the preliminary results of a study conducted by System Planning Corporation for the Office of Mitigation and Research within the Federal Emergency Management Agency. The work has been largely conceptual, and this format has been adopted in an attempt to emphasize the need to visualize the overall context in which the agency's research efforts should be performed.

Study Objectives

Specifically, Mr. George Divine from the Office of Systems Analysis and Integration requested that SPC attempt to develop a conceptual framework within which FEMA could build a comprehensive multi-year research and analysis effort concerning mobilization and resource policy options. The need for such an effort had become clear during a former SPC study, entitled Impact of Enhanced Mobilization Potential on Civil Preparedness Planning, which pointed out the need to integrate national civil defense efforts with other national mobilization requirements that could evolve during a period of national crisis. The analysis indicated an increasing need to revitalize our national mobilization capabilities in view of growing Soviet military prowess--which includes a substantial mobilization capability. The consolidation of U.S. emergency preparedness oversight within the newly formed FEMA provided additional impetus to develop a contemporary overview of total national mobilization capabilities that might be needed in the future. The chart on the facing page indicates the four broad subtasks that were to be explored in the pursuit of the overall study objectives.

CONCEPTUAL FRAMEWORK FOR FEMA RESEARCH



Conceptual Framework for FEMA Research

The general outline of the desired framework was proposed schematically as part of the conclusions of the prior study. A matrix format suggested itself because of the two basic variables involved: the gamut of contingencies with which the country might be faced; and the various--and semi-autonomous--segments of the national entity that could be involved in emergency responses. Several formulations were considered for both the horizontal and vertical subdivisions of the matrix. Specific "scenarios" were originally envisioned as the components of the contingencies, while general functional categories such as "industrial production" were imagined along the vertical axis. Both of these concepts were subsequently modified. The idea of scenarios was replaced with a broader delineation of various "phases" or classes of contingencies. The functional categories evolved into a more discrete set of national entities reflecting to a considerable degree the various federal departments and agencies with current emergency functions.

There are a large number of different considerations within each matrix square that might involve research and analysis; no attempt has been made to catalogue all of these. Moreover, different research efforts will likely involve different aggregations for different study objectives. For instance, a study might involve all data requirements for, say, the Department of Labor and hence represent a "horizontal slice" across the matrix. Another study might need to explore all the control mechanisms available in the event of a major refugee influx, requiring a "vertical slice" through all the involved agencies. Yet another effort might explore the need for new federal legislation anywhere within the matrix. In this case, the major value of the matrix may simply be to assure that all potential aspects of the overall problem have been considered. Other possible study areas are hypothesized on the chart.

BASIC MOBILIZATION TENETS

- **Mobilization involves prompt reallocation of national resources after some triggering event**
 - to mitigate the direct or indirect impact of some actual or anticipated threat to national well-being-as it appears at the time.
- **Mobilization planning must encompass both preventative and remedial activities**
 - and stress the U.S. capability to manage and execute on an ad hoc basis.
- **Mobilization reactions should be evidently and impressively responsive**
 - to demonstrate and signal alertness, resolve, and national capabilities.
- **Mobilization efforts can strongly influence perceptions abroad**
 - both allied, neutral, and enemy-counteracting laissez-faire appearance of democracies.
- **Mobilization capabilities can provide a valuable instrument of national policy**
 - by which to earn respect and rapidly offset perceptions of weakness or indifference.

BASIC MOBILIZATION TENETS

The next five charts present an overall set of mobilization "tenets," which evolved during the conduct of this work. The body of this briefing expands on this set of principles; the related chart sets are noted above the principles to which they apply. We recognize that this listing of tenets should be the subject of continuing debate. Suitably refined and reshaped, it could form the basis for fundamental U.S. national policy objectives regarding mobilization aspects of federal emergency management. The lack of an up-to-date statement of national mobilization objectives reinforces the need for this type of broad conceptualization.

There is also a lack of accepted definitions concerning mobilization and emergency responsiveness. We have chosen a broad definition of mobilization: any re-allocation of national resources from peacetime norm to mitigate the impact of some actual or anticipated threat following some specific triggering event. We reject the idea that mobilization applies only to military contingencies, industrial production, or any other narrower subset. This is controversial due to the traditional separation--both organizational and philosophical--of peacetime and wartime emergency responses. We also believe that mobilization efforts are intended to be preventative as well as remedial. Some agencies appear to visualize their mobilization efforts only after the hurricane or plague, or after the war has begun. Emergency preparedness can be unduly restricted by this post-facto approach.

We also believe that a nation's reactions to a crisis are carefully observed both within and beyond national boundaries. There is both national pride and international respect to be earned by demonstrating national responsiveness--whether it is to the threat of swine flu, or to beating the Russians to the moon! Thus, national mobilization capabilities are a valuable and significant instrument of national policy. Except in cases where secrecy may be desirable (as in mobilizing one's intelligence resources), the political values of being perceived as clearly prepared to shape our own destiny are desirable.

BASIC MOBILIZATION TENETS (Continued)

CHART SET A

- **Mobilization applies to social, environmental, economic, political, technological and military crises**
 - involving civil matters as well as conventional, nuclear, and chemical/biological warfare.
- **Mobilization can be instrumental across a very broad range of contingencies**
 - the U.S. cannot afford to "optimize" around any one at the expense of all of the others.
- **Different contingencies will produce "worst case" mobilization demands for each national segment**
 - requiring each segment to develop its own "worst case" without scenario constraints.
- **Maximum mobilization capabilities should be based on some rational composite of worst cases**
 - without contriving to force any small set of scenarios to represent all worst cases simultaneously.

Basic Mobilization Tenets (Continued)

Given this broad formulation for mobilization, the term clearly applies to all sorts of crises, as suggested on this chart. A social crisis might involve the resettlement of a large and unexpected surge of refugees. An economic crisis might result from massive defaults on loans held by the U.S. A political crisis might involve the fall of the Polish Government. A technological crisis might involve the Soviet demonstration of a killer-laser in space. A military crisis could result from terrorist activities against tankers transiting the Persian Gulf. Any of these actions--or fears of these actions--could trigger a national re-allocation of resources, and hence a human resources mobilization, an economic mobilization, an industrial mobilization, or a military mobilization of some sort. Any segment(s) of our Federal Government might be involved in such an effort--and there are virtually certain to be considerable interactions between the various segments.

Two other principles appear to need emphasis here. First, no one contingency should dominate emergency preparedness planning at the expense of others, since none offer a clear predominance in both severity and likelihood. It would appear far wiser to be 80-90 percent prepared for many contingencies rather than 100 percent prepared for the one contingency that never happens. Second, no one contingency will represent the "worst case" for every segment of the national entity. The Navy's worst case is very different from the Army's, and Treasury's is very different from Agriculture. Even different nuclear laydown patterns will produce different critical results. Consequently, maximum mobilization capabilities should reflect some rational composite of different worst cases, without contriving to force them into some small groups of very specific scenarios, as ordained by the last NSC. Those who disagree with this statement generally use a different definition of the word "scenario" than is implied by the NSC "five scenarios."

BASIC MOBILIZATION TENETS (Continued)

CHART SET B

- **National resources may be mobilized from any segment of the national entity**
 - including natural, human, financial, industrial, governmental, or military.
- **Mobilization will be largely carried out by in-place institutions**
 - a useful "fall-out" from the "all-pervasive" federal and state government infrastructure.
- **Many mobilization aspects will be best carried out at the regional level**
 - with quite different emphases and demands in different regions.

Basic Mobilization Tenets (Continued)

Those who think of mobilization in the narrower terms of defense industrial mobilization will overlook many segments of our national entity that may well become involved in emergency response activities of their own. Moreover, any major economic dislocation is likely to have pervasive effects throughout our entire society that will require compensatory mitigating efforts. Such efforts may be focused at either the federal or regional levels; in either case, they will involve federal agencies as well as their state and local counterpart organizations.

The total extent of the federal responsibilities, and the broad variety of federal organizations that share in those responsibilities, cannot be overemphasized when trying to conceptualize emergency preparedness and mobilization activities. Furthermore, there are extensive and inescapable interactions between the various functional entities. One potentially profitable area for further FEMA research and analysis might be to develop the potential input/output relations between the various departments and agencies from a management standpoint. This bureaucratic input/output relationship may be just as important to understand as its purely economic analogs.

In comparison to Soviet mobilization planning, the U.S. is sometimes criticized for its lack of centralized direction, and for the use of organizational structures and people not involved in "normal" peacetime government activities. It is not clear that this concern is accurate; many mobilization functions will be carried out by existing agencies of our pervasive Federal and State governments, acting in special emergency roles. Furthermore, many of these functions can only be properly carried out at the regional or local levels. Accommodation of diversity would appear to be an important advantage of U.S. national mobilization capabilities.

BASIC MOBILIZATION TENETS (Continued)

CHART SET C

- **Mobilization objectives may involve avoiding some unwanted future course of events**
 - without living perpetually "on the ramparts," and without destabilizing extant situation.
- **Mobilization objectives will be undertaken without full knowledge of the future**
 - in the hopes of avoiding some scenario: hence "requirements" are speculative at best.

CHART SET D

- **Mobilization options should be very broad, permitting graduated responses**
 - not a spastic, off-on (bang-bang), response.
- **Mobilization reactions should be expandable if circumstances worsen, or fail to improve**
 - while avoiding sequential antithetical dislocations if possible.
- **Successful preventative mobilization efforts may generate unused capabilities**
 - making it desirable to avoid excessive waste and disruptions.

Basic Mobilization Tenets (Continued)

There seem to be misunderstandings about the ambiguity of most mobilization objectives at the time of their initiation. The most successful mobilization efforts may in fact avoid some unwanted future situation. These preventative efforts can hardly be definitive. We found some organization elements who simply want to react to a clearly defined problem. It must be emphasized that nobody knows how big the strategic petroleum reserve should be; the Army has no idea how many tanks it would take to keep the Soviets out of the NATO area; the Air Force cannot tell how fast its aircraft will be shot down; and there is no reliable estimate of how many dead will need burying after the first round of a nuclear exchange.

In addition, many persons seem to think of mobilization as an off-on condition. In fact, one should be able to "dial up" mobilization over a broad range of levels in any of a large number of sectors or subsectors. It may be politically desirable to use various mobilization levels for signalling purposes, or to avoid excessive economic disruptions. Additionally, mobilization levels may be described more rationally in terms of input rather than output levels. (See Chart D)

It seems platitudinous to suggest that the best mobilization efforts may be those that produce unused capabilities by deterring the threat. Indeed, there may well be cases where it is possible to minimize input disruptions and maximize output utility. For instance, the U.S. might respond in two ways to the suspicion of a planned North Korean attack on South Korea: "mobilize" two reserve divisions, interrupting the lifestyles of up to 50,000 citizen breadwinners; or rapidly gear up production of antitank weapons currently in short supply. Clearly, if either approach could deter the attack, there would be substantial advantages in selecting the latter course.

BASIC MOBILIZATION TENETS (Continued)

CHART SET E

- **Mobilization planning should recognize the several potential phases of crisis evolution**
 - to improve conceptualization of full range and interrelation of policy options.
- **There are no single point solutions to mobilization needs**
 - consideration of alternatives may reduce costs, increase output, and benefit from innovation.
- **Mobilization should often be a multi-national effort**
 - requiring or benefitting from allied participation.

Basic Mobilization Tenets (Continued)

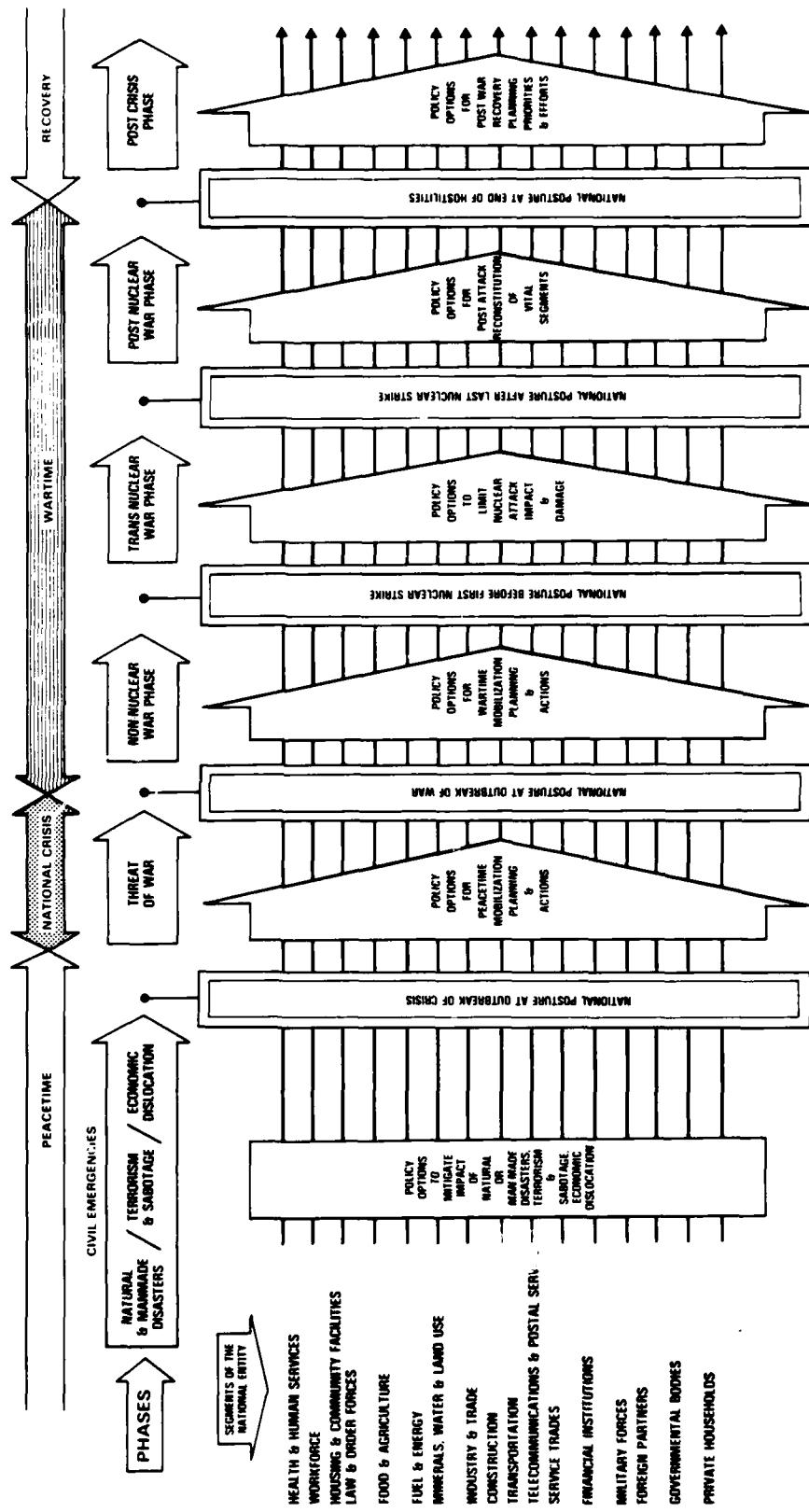
Rather than thinking in terms of specific scenarios, outlined in detail day-by-day or week-by-week, it seems preferable to think in terms of the potential phases in the evolution of a crisis, and the likely linkage between them. The conceptual approach should encourage the consideration of alternatives at each stage in the progression of the emergency. This is particularly important if the mobilization responses are intended to alter the subsequent course of events. Moreover, the search for plausible linkages between various kinds and stages of contingencies can also impact favorably on the response mechanisms developed. It would be better to provide slightly off-optimum but consistent reactions to a variety of emergencies, than to devise unrelated reactions to individual eventualities. Successful mobilization policies will almost certainly preserve flexibility and continuity.

In this regard, it bears repeating that there are no single point solutions to mobilization needs. Particularly in the fast-changing, free-enterprise, ingenuity-rewarding Western societies, the preservation of initiative may be one of the most threatening qualities available to deter the more structured and centrally managed communist states. It would clearly be possible to "overplan" for our national mobilization capabilities. Without any mobilization planning, however, we may unwittingly deny ourselves the opportunity to capitalize on some of our greatest national virtues. In short, we need to do just enough to be able to live successfully with "brinksmanship." We currently fall short of that limited objective.

Finally, mobilization is generally considered to be a purely national matter, with little or no considerations of allied participatory efforts. As the U.S. moves from unilateral leadership of the Western Alliance towards partnership, this mobilization burden should also be better shared.

CHART SET A

MAJOR PHASES FOR CONCEPTUALIZING EMERGENCY MOBILIZATION PLANNING



MAJOR PHASES FOR CONCEPTUALIZING EMERGENCY MOBILIZATION PLANNING

This chart presents the latest evolution of our "conceptual framework," and this section deals with the major crisis phases rather than specific constraining scenarios. The subsequent charts deal with each of the eight distinct phases identified: The first three deal predominantly with civil emergencies; the fourth represents national crises that threaten war; the next three describe the major phases of wars with U.S. involvement; and the final one deals with the issues of national recovery following the termination of the crisis--which may or may not have involved war.

There is no implication that each of these phases need to be sequential. In fact, several of the phases may not occur. It is possible to have an earthquake without a war, and vice versa. Nevertheless, there are "linkages" as well as similarities, and possibly some reversals. A serious shift in the San Andreas fault, for instance, might produce casualties in California at least ten times higher than "another Vietnam." Similarly, a terrorist attack on Honolulu with a biological weapon might produce more casualties than expected in Hawaii from a full-scale nuclear counterforce exchange. In any event, it would be desirable to develop mobilization policies that permit the greatest possible flexibility and consistency in moving from one phase to another.

The vertical axis defines the segments of the national entity, which are discussed in greater detail under chart set B.

**GENERAL CHARACTERISTICS OF EMERGENCY
MOBILIZATION PHASES
NATIONAL CRISES AND EMERGENCIES**

CIVIL EMERGENCIES				WARS INVOLVING U.S.				POST-EMERGENCY RECOVERY PHASE	
NATURAL MAN-MADE DISASTERS	TERRORISM AND SABOTAGE	ECONOMIC DISLOCATIONS	THREATS OF WAR	NON- NUCLEAR PHASE	TRANS- NUCLEAR PHASE	POST- NUCLEAR PHASE	internat.	internat.	internat.
Scope	regional	regional	regional or national	internat.	internat.	internat.	internat.	internat.	internat.
Duration	hrs-wks	hrs-wks	wks-mos	wks-yrs	wks-yrs	hrs-mos	hrs-yrs	mos-decs	mos-decs
National Impact	min-mod	min-mod	mod-maj	mod-maj	mod-maj	mod-maj	min-maj	min-maj	min-maj
External Assistance	yes	yes	maybe	maybe	maybe	no	maybe	yes	yes
Warning Time	hrs-dys	hrs-wks	wks-mos	wks-mos	wks-yrs	wks-mos	wks-mos	mos-ys	mos-ys
Predictability of Consequences	good	fair	good	fair	good	fair	fair	fair	fair
Mitigation Potential by Mobilizing	poor	poor	fair	good	good	good	fair	fair	fair

General Characteristics of Emergency Mobilization Phases

This chart presents some of the general characteristics of each emergency mobilization phase. The regional nature of the first two classes of civil emergencies sets them apart from the others that are either national or international in scope. In those cases the FEMA regions may be able to count on assistance from one another, while in the rest they may have to react within their own regional resources. Additionally, the regional crises appear to be of shorter duration, and their national impact will be less severe--even though their local impact may be far more severe.

The issue of external assistance spills over into considerations of allied participation in national and international crises. In some cases, disaster relief may be more readily available from Canada or even Mexico than from more remote regions of the U.S. itself. Such assistance may also be valuable during major wars. Assistance from friendly states abroad could also be vital to post-crisis recovery in the aftermath of a nuclear war.

Considerations of the value of mobilization are also inextricably enmeshed in predictions of warning time in which to react preventatively. It appears increasingly unlikely that any national crisis need have no advanced warning. Even the predictability of earthquakes is improving. The past concept of a "bolt from the blue" military attack on the U.S. or its allies has done much to destroy national mobilization capabilities. This conventional wisdom appears firmly imbedded in much emergency planning. So much so, that we are denying ourselves the ability to mitigate wartime damage in the event that warning is provided.

We have also tried to characterize our national ability to predict the consequences of each category of crises, as well as the ability to mitigate the impacts of civil emergencies.

CIVIL EMERGENCIES

A. NATURAL AND MANMADE DISASTERS

(regional scope: national impact)

NATURAL DISASTERS:

- Major earthquakes--California?
- Violent storms: hurricanes, tornados, blizzards
- Human/animal/crop plagues and/or disease
- Tidal waves
- Drought
- Floods

MANMADE DISASTERS:

- Nuclear powerplant accident
- Nuclear weapon accident
- Chemical spills: railroads, harbors, coastal, etc.
- Major refugee influx (Cuban, Mexican, Vietnamese, Cambodian, etc.)
- Power failures, dam breaks, etc.

Civil Emergencies: Natural and Manmade Disasters

Our advancing technological societies leaves us increasingly vulnerable to both natural and manmade disasters. Greater urban and suburban populations, as well as greater concentrations of homes in coastal and mountainous regions, increase the levels of damage that might be expected from a single storm or infectious disease. Greater per-acre agricultural productivity increases vulnerability to local weather aberrations or blights. The harnessing of nuclear power, and the increasing use of extraordinary chemical processes bring substantial risks. Fires in thousand-room hotels may be more dangerous than in hundred-room inns, even if they happen only one-tenth as often.

Several categories of manmade disasters also appear to be scale models of their military counterparts. Chemical and nuclear accidents are clearly similar to weapon effects. Biometric developments may also bring hazards with some affiliation to biological warfare. There are few areas where risks have become less; it is not difficult to visualize areas where the reverse is true.

Finally, recent influxes of refugees from Vietnam, Cambodia, Cuba, and Haiti present very substantial disturbances to local and regional stability and cause considerable economic hardship. The mobilization of resources to cope with, or perhaps curtail, these influxes cannot be overlooked. Such migrations may bear strong resemblance to the movements of surviving populations from areas hit by nuclear or chemical weapons. In any event, the "linkage" is unmistakable, and it would appear desirable to encourage the development of practical refugee absorption capabilities.

CIVIL EMERGENCIES

B. TERRORISM AND SABOTAGE (regional scope: national impact)

TERRORISM:

- Assassinations
- Kidnapping/hostages
- Hijackings/skyjackings
- Chemical/biological/nuclear threats against cities
- Civil disorders

SABOTAGE:

- Federal Government facilities
- State and local government facilities
- Civil or defense industries
- Utilities-breakouts, etc.
- Communications nets
- Transportation nodes and systems
- Water supplies

Civil Emergencies: Terrorism & Sabotage

The same qualities of modern U.S. life that make us vulnerable to natural and manmade disasters also apply to terrorism and sabotage. There are no practical alternatives in a free and open society for the elimination of such threats during periods of tension and crisis. Instead, it appears essential to assure that the entire gamut of such possibilities is fully covered in emergency preparedness planning.

The similarity of many of these contingencies to natural disasters as well as wartime disasters again emphasizes the need for a flexible and continuous national capability to mobilize our resources to mitigate their impact.

We have included civil disorders within the general category of "terrorism," which may be something less than appropriate. Nevertheless, large-scale rioting, looting, and other forms of civil disobedience might well follow some major terrorist threat or action. Such activities may also result from natural or manmade disasters or in the aftermath of unpopular or very destructive wars.

CIVIL EMERGENCIES

C. ECONOMIC DISLOCATIONS

(regional or national scope and impact)

- Oil embargo
- Other material shortages
- Major industry or transportation strikes
- Major crop failures
- Major recession/unemployment
- Rampant inflation
- Psychological uncertainty--"run on the bank," hoarding, etc.
- Major loan defaults or bank withdrawals by foreigners
- Market manipulation by conglomerates
- Major import price hikes
 - Major import "dumping"
 - Major export barriers

Civil Emergencies: Economic Dislocations

Increases in the vulnerabilities of our physical surroundings have been accompanied by increases in the vulnerabilities of our overall economic structure. Of serious concern is the fact that many causes--such as changes in the price or flow of oil--are almost totally beyond direct American control.

In the same vein, the greater level of trade between the industrialized nations has linked their economies in such a way that recession and inflation in one country eventually affect some level of recession or inflation in the others. Oil price increases have resulted in large and growing foreign loans by many American institutions, while the glut of dollars in the hands of the oil-producing nations is often returned to U.S. institutions for financial investment. Defaults on the loans or sudden withdrawal of the large dollar deposits could also disrupt U.S. financial markets. The growth of international conglomerates has given rise to additional concerns, as has the far greater foreign penetration of the U.S. market for durable goods. These factors make the U.S. marketplace far more vulnerable to outside price manipulation.

All of these factors must be combined with the fact that the mechanisms for mitigating the impacts of economic disruptions and achieving national recovery are much less understood in the economic domain. One cannot inoculate or spray against the problems, nor rebuild a sound economy based simply on federal loans and the reallocation of construction or manufacturing assets. The need for additional national efforts to provide greater emergency preparedness against the threats of national economic difficulties seems undeniable. Moreover, there appear to be unmistakeable similarities between some of the peacetime issues mentioned above and the demands on the economy imposed by major U.S. crisis or wartime mobilization efforts discussed subsequently.

THREATS OF WAR (POSSIBLE DURATION)

POLITICAL TRAUMAS:

- Death of leader--Tito--weakened alliance
- Radical coup--Iran--threatened U.S. assets abroad
- Government collapse--Turkey or Saudi Arabia--major power shift
- Serious border incidents--Thailand--client harassment/defeat
- Negotiation stalemate/breakdown--SALT II--threat of arms race, war
- Soviet aggression outside own domain--Afghanistan--threat of war
- Soviet mobilization--Middle East--threat of war
- Superpower confrontations--naval incident in Mediterranean?
- Major shift in correlation of forces--PRC back to Soviet hegemony?

REGIONAL OR LIMITED WARS: (few weeks to several years)

- Client/client conflict--Arab-Israeli; Ethiopia-Somalia
- Limited nuclear exchange between Third World countries--ME/PG?
- Soviet client attack on U.S. client--Korea?
- Major arms transfers to support worried, or warring, clients--Israel? Egypt?

MAJOR TECHNOLOGICAL BREAKTHROUGHS IN WEAPONS: (several years)

- "Death ray" weapons
- Sudden nuclear proliferation at theater level
- Chemical/biological weapons
- Counter-space systems--anti-intelligence; anti-communications

ECONOMIC WARFARE: (few weeks to several years)

- Boycotts, embargos, cartels, etc.

Threats of War

There have been major shifts in the correlation of forces away from the United States and her regular allies, as well as a weakening of the bonds that hold those Western allies together. These losses have encouraged a more aggressive Soviet foreign policy, and a less cautious outlook by restless Third World nations. It is becoming increasingly important that the U.S. demonstrate its resolve to avoid international chaos or expanding Soviet hegemony. The U.S. is becoming less capable of accomplishing its objectives solely by declaratory policy. It must be able to demonstrate its resolve and intentions by prudent reactions, which are clearly perceived by the world as responsive to the threat. The U.S. can no longer influence world events solely by trying to inconvenience others; in many instances, we may need to prove our willingness to inconvenience ourselves. Such reallocations of resources constitute some form of partial mobilization and could become a major instrument of national policy.

The range of potential war threats that might produce some sort of mobilization response is virtually limitless. As indicated, many would fall in the category of political traumas; others might be local or regional wars in which we are involved only by indirection. Others involve reactions to technological breakthroughs--which become more and more plausible as the U.S. technological advantage disappears relative to both friends and adversaries. Finally, the age of "economic warfare" has arrived, although it has not yet been practiced with great skill. We may even see some cases in which entire national economies collapse and thereby threaten international economic stability.

Even though most of these eventualities may never transpire, we can ill afford to be totally unprepared for any of them; nor can we ignore their strategic warning of possibly greater threats ahead, particularly if we fail to respond.

NON-NUCLEAR WAR PHASE (POSSIBLE DURATION)

SIMULTANEOUS OR PROGRESSIVE U.S. COMMITMENT: (few weeks to several years)

- Client resupply--including NATO allies
- Client reinforcement--like Korea
- Major conventional war at sea--ASW and anti-SLOC
- U.S. intervention--such as ME/PG
- U.S. attacks on Soviet forward bases--Caribbean, Aden, Cam Rhan Bay, etc.
- War on NATO flanks--Norway, Iceland
Greece, Turkey, Eastern Mediterranean
- War in NATO central region
- Simultaneous conventional conflict "worldwide"
- Massive U.S. arming of the PRC against the U.S.S.R.
- Competitive U.S./U.S.S.R. civil defense "race" to deter nuclear escalation

Non-Nuclear War Phase

Even when the U.S. does become involved directly in a war, a variety of mobilization responses could be appropriate. The Korean war led to a national mobilization effort to restore a balance of power--well beyond the immediate needs of that localized struggle. On the other hand, our Vietnam war mobilization effort was well below the demands of even that low intensity war, resulting in draw-downs of some U.S. forces and delayed modernization of others.

More important is the slowly growing realization that a "bolt-from-the-blue" "NATO-first" war is certainly not the only, or even the most serious, eventuality the U.S. might face. The war might well start elsewhere, with the U.S. only resupplying friendly clients. That conventional war might then spread to a worldwide conflict of greater scope and duration than World War II.

This chart indicates some of the forms of such a conventional war. It illustrates the many paths the war might follow, and suggests that different mobilization efforts might be pursued, depending on its anticipated (or feared) future course. Those who feel there is neither time nor need for truly heroic national mobilization efforts have simply not considered all the options now available in a multi-polar world with a neutral power balance.

The current equality in nuclear arms, and disadvantage in conventional arms suggests two other possibilities: the future course of Soviet belligerence could be influenced by massive Western arming of the People's Republic of China, and the likelihood of nuclear escalation could be influenced by major short-term efforts to improve our civil defense posture. Either effort could strain national industrial mobilization capabilities. These are not predictions--only food for thought in future studies of national policy options for mobilization planning.

TRANS-NUCLEAR WAR PHASE (POSSIBLE DURATION)

THEATER NUCLEAR WARFARE: (few days to several weeks)

- Client-to-client-ME/PG?
- U.S./Soviet war at sea (counter-aircraft carrier)
- NATO/Pact land battle

LIMITED STRATEGIC COERCION: (few hours)

- No-value target demonstration of will
- Isolated counter-military, counter-economic, or counter-population

PROTRACTED STRATEGIC EXCHANGE: (few weeks to several months)

- Counter-military, counter-economic, counter-population
- Mixture/progression of above

ALL-OUT STRATEGIC EXCHANGE: (few hours to few days)

- Counter-military (silos, bases, ports, etc.)
- Counter-economic (factories, ports, transport, communications, etc.)
- Counter-population (cities)
- Mixture of above

CONTINUING CONVENTIONAL WARS: (few days to several months as above)

- Continuing wherever already in progress

Trans-Nuclear War Phase

A generation of nuclear superiority, coupled with a declaratory policy to deter nuclear war, has left this country ill-equipped, philosophically or psychologically, to address the realities of nuclear war-fighting. A generation of inferiority has left the Soviets far better mentally prepared to explore their warfighting alternatives. The current nuclear balance gives rise to scenarios having only limited theater nuclear exchanges--possibly not even involving the superpowers--or being waged only at sea. Intercontinental exchanges may be very limited, for coercive purposes, or very protracted as each side tries to break the will of the other. Such exchanges may be against military, economic, or urban targets.

An all-out "spasm" response remains a possibility, although its outcome appears increasingly indeterminate. In fact, one must wonder how the victor of such an exchange is determined. If it is a protracted exchange, how does either side decide that the exchange has terminated? What happens to conventional conflicts in progress? Might one side surrender its conventional forces while the other side surrenders unconditionally at the nuclear level?

In-depth considerations of nuclear warfighting possibilities lead to concern for the stamina and reconstitution of the nuclear forces themselves, as well as for civil defense plans far different than the current "crisis relocation plans." Mobilization of additional nuclear forces as well as of passive defenses appear to warrant substantially increased emphasis. Moreover, the "trans-nuclear phase" must be recognized as one of possibly substantial duration, measured in terms of weeks or even months. There is virtually no emergency planning for such an eventuality, although there is considerable agreement that current crisis relocation plans are impractical.

POST-NUCLEAR WAR PHASE (POSSIBLE DURATION)

CONVENTIONAL WARS: (few weeks to several years)

- Any or all of preceding-prosecuted mainly by surviving allies
- Quarantine of U.S. coast/ports by surviving Soviet naval units
- U.S. invasion by scavengers-Cubans, Mexicans, or others
- Opportunistic aggression by "predator nations"
seeking to realign balance

Post-Nuclear War Phase

Consideration of drawn out, inconclusive nuclear wars leads to thoughts about residual conventional wars, or "broken back wars" as they were once called. It appears a foregone conclusion that after the nuclear exchange comes national rebuilding. Any continuation of conventional war seems to be disregarded.

The possibility of some continuing war should be considered for two reasons. First, neither side may be willing to acknowledge defeat across the board. Either side may still hope to influence the other's rate of post-war recovery and thereby extract better terms of surrender. Surviving naval forces could prevent the import of recovery assistance and have a substantial impact. Either side might also feel compelled to annex adjacent territory useful to its own recovery, particularly if it could not "buy" help.

Second, major changes might take place in a world with both superpowers devastated by nuclear war. What new alignments and power centers would evolve? Could either superpower protect its pre-war boundaries against predators and opportunists? Would Mexico, Cuba, or even Canada try to improve their own posture by encroaching on surviving U.S. resources, assets, and productive territory?

Is it even certain that the surviving remnants of the U.S. would opt for national unity and law and order? Who would enforce it? Would the survivors wish they were dead, or would they fight for their survival? The answers are clearly beyond the scope of this effort. It seems unrealistic, however, to ignore the possible need to continue some form of conventional--or unconventional--warfare in the aftermath of a nuclear conflict. From the standpoint of national mobilization needs, it deserves additional attention.

POST-CRISIS RECOVERY PHASE **(POSSIBLE DURATION)**

(few, to many years, depending somewhat on . . .)

THRUST OF STRATEGIC NUCLEAR ATTACKS:

- Counter-military
- Counter-economic
- Counter-population
- Mixture of above

RESIDUAL THREATS TO U.S. NATIONAL SECURITY:

- No external threats--like post WWII
- Soviet defeat indeterminate: new "re-arms race"
- New post-war power blocs: PRC? Latin America?--see following chart

EXTERNAL ASSISTANCE FROM:

- Canada?
- Mexico?
- Latin America?
- West Europe?
- Africa?
- Other national regions?

Post-Crisis Recovery Phase

If any of the aforementioned crises or wars actually take place, there will be some post-crisis period of recovery. Regional disasters due to storms, accidents, or terrorists would presumably be repairable within national resources. Conversely, national recovery from a major nuclear war, treated on the facing chart, could take a very extended period of time, and benefit enormously from assistance from other countries. The rate of national recovery may also be influenced by various residual threats to U.S. national security that cannot be ignored. The evolution of new power blocs could conceivably be a cause for immediate post-war concern.

Discussions of post-nuclear national security requirements are rare indeed in the U.S. culture. However, the Soviets write extensively on the issues associated with "winning the peace" after winning the war. They clearly plan to occupy the territory of any contiguous adversaries, and it is unlikely that they would wage a war in such a fashion as to leave a more powerful post-war threat than they could handle. In this regard, it would appear highly unlikely that the West European nations would be permitted to escape a nuclear exchange between the superpowers. For this practical reason, it would appear unwise for the U.S. to count on post-war aid from Europe rather than from other continents more likely to survive because of their insignificant threat to the U.S.S.R.

In any event, there is no reason to assume a totally benign international post-war environment. There is also no reason to assume that U.S. national recovery would have to be accomplished without foreign assistance. The development of standby mechanisms to enhance the likelihood of such post-war cooperation appears to be in order.

TWENTY STRONGEST POST-NUCLEAR SURVIVOR NATIONS

<u>COUNTRY</u>	<u>"SULLIVANOV" MIL. SCORE</u>	<u>COUNTRY</u>	<u>"SULLIVANOV" MIL. SCORE</u>
China	36300	Spain	4500
Israel	12000	Syria	4200
North Korea	11200	Pakistan	3900
South Korea	10100	Cuba	3800
India	10000	Sweden	3800
Egypt	8500	South Africa	3800
Taiwan	7200	Brazil	3600
Japan	6700	Switzerland	2600
Vietnam	6600	Australia	2600
Iraq (pre-war)	5400	Thailand	2100

Twenty Strongest Post-Nuclear Survivor Nations

This chart serves only as a footnote to the prior chart. It ranks in order of military strength the twenty most powerful nations outside the NATO/Warsaw Pact alliances. The "Sullivanov" method for scoring national military capabilities simply provides a crude method for combining troops, armaments, aircraft, and ships to generate total country scores.

Whether or not the Soviets would permit the People's Republic of China to escape a superpower nuclear confrontation remains uncertain. If it did, it would evidently be the strongest military nation in the world, even though it might not be able to project that power very far. The predominance of the other militarily capable nations appear to be on the rim of the Eurasian continent. In the Western Hemisphere only Brazil and Cuba fall within the "top twenty." Hence, post-war threats may be a greater problem for the U.S.S.R. than for the U.S. Nonetheless, this simple country listing should not be interpreted as justifying total disregard for U.S. post-war security requirements. This might be particularly true if the U.S. attempts to retain its far-flung alliances, and to discourage the formation of unfriendly alliances that could delay U.S. national recovery. Would Vietnam seek to take over all of Southeast Asia? Would the Koreans attempt to subjugate the Japanese? Would Egypt try to change the balance in the Middle East?

This study cannot provide definitive predictions of future realignments. The issue is raised only to assure that consideration is given to U.S. post-war security requirements.

CHART SET 8

NATIONAL ENTITY AND FEDERAL AGENCY RESOURCE AND CLAIMANT RELATIONS

SEGMENTS OF THE NATIONAL ENTITY	MAJOR RESOURCE AGENCIES	CLAIMANTS
Human Resources		
Health and Human Services	DHHS	DHHS, DOD, OMB, FEMA
Workforce	DOL	OPM, DOC, DOD, VA, USDA, DOL, DOD, DHUD, DHHS, FEMA, OMB, State, Treasury
Housing and Community Facilities	DHUD	DHUD, DHHS, FEMA, DOD, OMB
Law and Order Forces		
Food and Agriculture	USDA	USDA, DOC, DOD, STATE
Natural Resources		
Fuel and Energy	DOE	DOE, USDA, DOC, DOD, DHHS, DOD, FCC, ICC, FEMA
Minerals, Water, and Land Use	DOI	DOI, DHUD, DOC, DOD, USDA, EPA
Industry, Commerce and Trade		
Production	DOC	DOC, DOD, DOI, DOE, DOT, DOD, DHHS, USDA, SBA, USPS, FEMA, NASA, TVA, OMB
Construction	DOC	DOC, DOD, DOI, USDA, DOD, DHUD, DHHS, Treasury, FCC, FEMA, USPS, FEMA, TVA, DOT
Transportation	DOT	DOT, USDA, DOE, DOI, DOD, DOC, DHUD, State, DOJ, FEMA, USPS, NASA, TVA
Telecommunications and Postal Service	OSTP	FCC, DOE, DOC, DHUD, DOD, FEMA, NASA, USPS, TVA, OMB, State
Service Trades		
Financial Institutions	Treasury	FEMA, Treasury, DOC, USDA, DHUD, DHHS, FCA, SBA, FHBB, NCUA, SEC, VA, FRS
National Security Affairs		
Military Forces	DOD	DOD, CIA, Coast Guard
Foreign Partners		
Governmental Bodies		Federal agencies claimant relationships are accounted for above, state and local governments, in some instances, act as direct or joint claimants to Federal resource agencies and, in other instances, the resource agencies estimate requirements for them
Private Households		

CHART 1, THE NATIONAL ENTITY

Federal Agency Resource and Claimancy Relations

The discussions on Basic Mobilization tenets observed that national resources may be mobilized through segments of the national entity, including natural, human, financial, industrial, governmental or financial. The facing chart displays a breakout of the segments of the national entity. In addition, the chart shows the assignments among federal departments and agencies for emergency preparedness responsibilities for (a) regulation and control of specified sectors of the economy, and (b) assessment and representation of essential resource needs of specific public or private sectors of the economy. Agencies with the former responsibility are referred to as federal resource agencies and those with the latter as federal claimant agencies. Portraying the resource and claimant relationship of the federal government as a function of the national entity demonstrates the totality of the federal responsibility for emergency preparedness with respect to the national economy, and those segments of the national entity which do, state and local governments and private households, which are neither federal resource agencies nor federal claimant agencies, are still claimants in an emergency on the resources either through direct or surrogate federal claimant agency or as the direct responsibility of appropriate federal resource agencies.

Planning Functions of Federal Departments and Agencies

The following pages show the broad national emergency planning responsibilities and specific preparedness planning functions of selected Federal departments in order to demonstrate the mobilization potential of segments of the national entity.

In all instances, the preparation of plans indicated under Specific Functions on the chart is a logical extension of a department's or agency's statutory functions, which are often concerned with planning for and reacting to emergencies similar to those anticipated in natural or war-related disasters.

Executive Order 12148 states:

Assignment of civil emergency functions shall, whenever possible, be based on extensions (under emergency conditions) of the regular missions of the Executive agencies. [Sec. 2-207]

A number of responsibilities common to the head of each department and agency are set out in Executive Order 11490 but are not always specified within the functions enumerated for each individual department or agency. These important government-wide functions include the provision or development of (1) " . . . technical guidance to State and local governments and instrumentalities thereof, to the end that all planning concerned with functions assigned herein will be effectively coordinated . . . ; (2) training programs which incorporate emergency preparedness and civil defense training, (3) information on the emergency functions of the department for public dissemination and arrangements for pre-recordings to provide continuity of service over the Emergency Broadcast System, (4) assistance to FEMA " . . . in formulating and carrying out plans for stockpiling of strategic and critical materials and survival items . . . ; (5) within " . . . the framework of research policies and objectives . . . " of FEMA, research in areas directly concerned with carrying out emergency preparedness responsibilities, and (6) emergency preparedness measures involving emergency financial and credit measures in cooperation with FEMA.

The documentation relative to the role of FEMA in emergency preparedness is stated as follows in Executive Order 12148:

The Director of the Federal Emergency Management Agency shall establish Federal policies for, and coordinate, all civil defense and civil emergency planning, mitigation, and assistance functions of Executive Agencies. [Sec. 2-101]

The Director of the Federal Emergency Management Agency (FEMA) shall determine national preparedness goals and policies for the performance of functions under this Order and coordinate the performance of such functions with the total national preparedness programs. [Sec. 6-124]

Before identifying selected Federal Government responsibilities and functions, two comments relative to the national entity and emergency preparedness are appropriate. First, State and local governments do bear responsibilities in their jurisdictions for planning for and carrying out operations in emergencies. (Indeed, according to its recent Director, the FEMA approach to emergency management has been to place primary reliance for emergency operations on the existing assets of local government plus other non-government assets available locally, to augment local jurisdictions with special systems or capabilities, and to commit Federal support in an emergency.) Second, most Federal Government departments or agencies have regional field offices that serve as a linkage with State and local governments in planning and in emergency operations. In addition, of course, these offices can and do participate substantially in preparedness actions, such as preparation of Federal emergency manuals and training. The degree to which these field offices participate is dependent on guidelines and leadership from the appropriate national office and on the overall policies and leadership from FEMA.

DEPARTMENT OF LABOR

Responsibilities	Specific Functions
Civilian manpower mobilization and resources	<ul style="list-style-type: none"> -- Development of programs for recruitment, selection, and referral; training; employment stabilization; and determination of critical skill categories to meet labor requirements -- Development of procedures for translating survival and production urgencies into manpower priorities -- Improvement of the mobilization base and utilization of limited manpower resources
Wage and salary stabilization	<ul style="list-style-type: none"> -- Preparation of statistical studies on overages, salaries, and prices, and the development of procedures for investigation, compliance, and appeals in the administration of a wage and salary stabilization program
Worker incentives and protection	<ul style="list-style-type: none"> -- Development of wage and salary and death and disability compensation; re-employment rights and unemployment payments; and occupational safety measures
Training	<ul style="list-style-type: none"> -- Initiation of programs to offset manpower deficiencies
Labor-management relations	<ul style="list-style-type: none"> -- Maintenance of effective labor-management relations

DEPARTMENT OF AGRICULTURE

Responsibilities	Specific Functions
Food resources, food resource facilities, farm equipment, fertilizer, federal forest reserve, rural civil defense	-- Development of priorities, allocations, and distribution control systems to provide adequate production, processing storage and distribution of food resources -- Assurance of availability of inventories of food resources -- Protection, management of national forests, and production and processing of forest products -- Prevention and control of fires in rural areas -- Diagnosis and control of disease, pests, chemicals introduced against animals, crops, or products thereof -- Protective measures and treatment of livestock including poultry and products exposed to radiation -- Use of crops, agricultural commodities on farms, agricultural lands, forest lands, and water for agriculture purposes affected by radiation -- Preparation, under direction of Interior, of a water use program for agriculture -- Preparation and distribution of civil defense information

DEPARTMENT OF COMMERCE

Responsibilities	Specific Functions
Production and distribution of materials, use of production facilities, control of construction materials, furnishing of basic industrial services	<ul style="list-style-type: none"> -- Development of control systems for priorities, allocations, production, and distribution -- Development of procedures for location of new production facilities -- Analysis of potential effects of attack on production capability and conduct of studies to identify pre-attack measures -- Loan assistance to small business
Control of ocean shipping	<ul style="list-style-type: none"> -- Development of industrial water resource claimancy requirements -- Allocation of specific ocean shipping and operation of ocean shipping -- Provision of ships for ocean shipping -- Control of traffic flow and administration of priorities of traffic through ports -- Allocation of ports and port facilities -- Necessary activities to support ocean shipping control
Census service	<ul style="list-style-type: none"> -- Collection and reporting of census information--human and economic resources, including post-attack survey capability -- Provision of means for estimating attack effects on industry and population

DEPARTMENT OF COMMERCE (Continued)

Responsibilities	Specific Functions
Science and technology services	-- Issuance of weather forecasts and estimation of radiation fall-out pattern -- Provision of geodetic, hydrographic, and oceanographic data to DOD
Fishery products	-- Assurance fishing industry continues to produce essential protein -- Development of priorities and allocations and acting as claimant for fishery products and control of fishing vessels.
Export-import control	-- Control of exports and imports under jurisdiction of the Department of Commerce

DEPARTMENT OF TRANSPORTATION

Responsibilities	Specific Functions
<p>Civil transportation of all forms, public storage, and warehousing</p>	<ul style="list-style-type: none"> -- Determination of proper apportionment and allocation for control of the civil transportation capability to meet civil and military needs -- Determination and identification of available transportation resources -- Analysis of transport projections for identification of actions to improve structure of the transport system for emergency use -- Development of systems for control of the movement of cargo and passengers, allocation of resources, and assignment of priorities. -- Allocation of designated civil aircraft to the Civil Reserve Air Fleet (CRAF) and War Air Service Program (WASP) -- Resource management of the National Aviation System (the Civil Aeronautics Board, under coordinating authority of DOT, shall exercise resource management of the WASP operations) -- Preparation with appropriate private organizations for the coordination and direction of the use of domestic surface transportation (railroad, motor carriers, inland waterways) and storage facilities for movement of cargo and passengers (ICC under DOT coordinating authority) -- Resource management of all Federal, State, local highways, roads, and appurtenant structures -- Planning for urban mass transportation in an emergency

DEPARTMENT OF TRANSPORTATION (Continued)

Responsibilities	Specific Functions
	<p>-- Enforcement of maritime safety and law</p> <p>-- Management and operation of the Alaska Railroad and the U.S. portion of the St. Lawrence Seaway</p>

DEPARTMENT OF TREASURY; FEMA; FEDERAL FINANCIAL SUPERVISORY AGENCIES; SEC

Responsibilities	Specific Functions
Financial policy (Treasury) (Indirect Measures)	-- Stabilization of the monetary, credit, financial system, and stabilization of the dollar relative to foreign currencies -- Collection of revenue, regulation of financial institutions, supervision of the Federal depository system, direction of transactions in government securities, tax and debt policies -- Participation in bilateral and multilateral financial arrangements with foreign governments, and regulation of foreign assets in the U.S.
Financial programs [Federal Financial Supervisory Agencies: (COC, FCA, FDIC, FHLBB, FRS, NCUA) SBA]	-- Manufacture, issue, and redemption of coins, securities, stamps, and currency, including issue of Treasury checks -- Maintenance of central government accounting and financial reporting system -- Provision and regulation of money and credit, including distribution of emergency supplies of money; the continued or resumed operation of banking, savings and loan, farm credit institutions; regulation of withdrawal of currency and transfer of credits; discharge of liability for insured deposits and accounts
Emergency stabilization [FEMA, (ODR/ESA)] (Direct Measures)	-- Declaration and administration of emergency controls on wages, prices, salaries, and rents (if authorized by the President and Congress) -- Administration of rationing of essential consumer items

DEPARTMENT OF TREASURY; FEMA; FEDERAL FINANCIAL SUPERVISORY AGENCIES; SEC (Continued)

Responsibilities	Specific Functions
Stock market (SEC)	<ul style="list-style-type: none"> -- Temporary closure of security exchanges, suspension of redemption rights, freezing of stock and bond prices; reestablishment and maintenance of a stable market; provision of a national records system to establish stock ownership -- Control of the formation and flow of private capital as it relates to new securities, and the prevention of the flight of capital out of this country -- Administration of customs laws, tax laws, and those in control of alcohol, tobacco, firearms, and explosives -- Suppression of counterfeiting and forgery of government money -- Granting of loans for expansion of capacity, development of technological processes, or production of essential material
Administration of customs and related laws (Treasury)	
Loan grants (Treasury; Export-Import Bank and guaranteeing agencies)	

DEPARTMENT OF THE INTERIOR

Responsibilities	Specific Functions
Minerals and water resources	<ul style="list-style-type: none">-- Development of programs and the encouragement of exploration, development, and mining of strategic and critical minerals-- Provision of guidance to assigned industries for programs to ensure continuity of production-- Analysis of supply capabilities including stockpiles in relation to minerals requirements-- Control of production and processing of minerals as per Interior-Commerce agreement-- Management, control, and allocation of water resources, and coordination of water planning efforts of other appropriate departments and agencies

DEPARTMENT OF ENERGY

Responsibilities	Specific Functions
Electric power, petroleum, natural gas, solid fuel, and minerals (with TVA)	<ul style="list-style-type: none">-- Assessment of adequacy of supplies to meet essential needs; guidance and coordination of efforts to provide adequate supplies, including possible increase in production and processing capacity-- Directional control of production, processing, and distribution-- Integration of TVA power system into national emergency program
Nuclear sector	<ul style="list-style-type: none">-- Continue or resume development and manufacture of nuclear weapons, except to extent such functions shall have been transferred to DOD-- Continue or resume development and technology related to reactors; process developments and production of feed material, special nuclear materials-- Closure of those department-owned facilities that might constitute a hazard in an enemy attack and ensure development of emergency plans for nuclear activities-- Disseminate public atomic energy information-- Assist DHSS in integrating into civilian health programs the Department's remaining health manpower and facilities not required by the Department

DEPARTMENT OF STATE

Responsibilities	Specific Functions
Overall foreign policy direction Coordination and supervision in formulation and execution of preparedness activities that affect foreign relations	<ul style="list-style-type: none"> -- Formulation and implementation, in consultation with DOD and other appropriate agencies, and negotiation of contingency plans with allies -- Policy formulations, negotiation, and execution with neutral states -- Formulation and execution of political strategy and definition of war objectives -- Maintenance of diplomatic and consular representatives abroad and reporting on conditions abroad -- Economic measures with other nations and coordinating export control with functions of DDC -- Mutual assistance activities, including assessing requirements of civilian economies of foreign states and determining availability of foreign resources -- Provisions of foreign assistance -- Protection or evacuation of U.S. citizens and nationals; protection or control of international organizations and foreign diplomatic and official personnel and property in U.S. -- Documentary control of persons seeking to enter or leave U.S. -- Regulation and control of export of items on munitions list

EACH DEPARTMENT OR AGENCY (WITHIN ITS ASSIGNED RESPONSIBILITY)

COORDINATION: FEMA

Responsibilities	Specific Functions
Priorities and allocations	-- Development of system for application of priorities and allocations to production, distribution, and use of resources
Requirements	-- Development and evaluation of requirements for assigned resources
Evaluation	-- Estimation of availability of assigned resources in relation to estimated requirements and development of appropriate programs, including those for maintenance of a mobilization base
Claimancy	-- Preparation of plans to claim from appropriate agency supporting materials, manpower, equipment, supplies, and services needed to carry out assigned responsibilities and functions; cooperation with other agencies in developing programs to ensure availability of resources

CHART SET C

**A SAMPLE TAXONOMY
FOR
NATIONAL MOBILIZATION
ANALYSIS**

TRIGGER EVENTS	
• economic disruptions	• technological breakthroughs
• terrorism/sabotage	• superpower crises
• natural/manmade disasters	• local conflicts
• political traumas	• regional threats
• negotiation stalemate	• major arms transfers
• high U.S./USSR tensions	• mobilization warfare
	• major Soviet aggression

U.S. FEARS/THREATS	
• U.S. people in anguish	• anti-U.S. activities
• economic coercion	• 3rd World instabilities
• political intimidation	• lost arms control
• threatened U.S. assets	• major power shift
• lost respect/stature	• client defeat
• weakened alliance	• U.S. into conventional war
	• nuclear escalation

MOBILIZATION OBJECTIVES	
• improved U.S. well-being	• increase readiness
• show national will	• up conventional sustainability
• show national strength	• up nuclear sustainability
• change perceived balance	• protect ally/client
• buy time to negotiate	• raise force levels
• deter threatened action	• limit national damage
	• foster postwar recovery

A SAMPLE TAXONOMY FOR NATIONAL MOBILIZATION ANALYSIS

The next three charts attempt to dramatize the multi-dimensional aspects of national mobilization, and to point out that mobilization decisions will often have to be made with incomplete information on what lies ahead. That decisionmaking process must be understood.

The facing chart deals with the first stages of a mobilization effort. Any such effort will respond to some triggering event. Subsequent expansions of the initial effort would probably be triggered by further key events. The triggering events generate certain fears or threats in the mind of the U.S. government. It is those fears or threats that lead to the establishment of specific mobilization objectives. Note the broad variety of trigger events, and the equally broad range of fears that could lead to the instigation of mobilization measures. Thus, there could be an equally broad spectrum of initial mobilization objectives--varying from showing of national will or buying negotiating time, to improving both conventional and nuclear force sustainability.

No claim is made that these alternatives provide the full range of possibilities. Rather, the intent is to show that initial mobilization steps may be triggered by early and incomplete events, and that the objectives of the effort may be preventative, cosmetic, signalling, or otherwise reactive to a set of fears--which themselves may not be truly representative of what lies ahead.

Important distinctions need to be made between these generalities and uncertainties and the preparation of detailed scenarios that claim to predict the future course of events right through to the end of a crisis. Although detailed scenarios can be useful in determining the levels of resource allocations that may eventually be desired to control the crisis, it would appear unwise to stereotype any small set of specific scenarios and constrain planning beyond their limits.

A SAMPLE TAXONOMY FOR NATIONAL MOBILIZATION ANALYSIS

SEGMENTS INVOLVED
• local agencies
• federal funds / agencies
• financial systems
• industrial sectors
• civil population / assets
• allied industry / assets
• law enforcement forces
• guard / reserve forces
• civil defense forces
• MARAD / Coast Guard forces
• conventional forces
• allied forces
• nuclear forces

MISSION AREAS
• disaster relief
• health care
• economic stabilization
• reserve activation
• conscription
• industrial mobilization
• intelligence and communications
• training & support
• base construction
• mobility & preposition
• arms transfers
• conventional warfare
• nuclear war & Civil Defense

MOBILIZATION LEVEL
• preparatory
• symbolic
• partial
• substantial
• full
• total
• spares & secondaries
• training rounds
• ammunition/bombs
• high-technology munitions
• complete weapon systems
• civil asset expropriation
• shelter systems

A Sample Taxonomy for National Mobilization Analysis (Continued)

The second chart shows the breadth of responses that might be appropriate to the fears and objectives established on the prior chart. Clearly, almost any segment or combination of segments of the country could be involved. Furthermore, within those segments, there are "mission areas" that would deserve specific emphasis. One can envision building new industrial facilities, for instance, without even adjusting the workforce in existing plants. On the other hand, a military construction program (e.g., overseas military bases) might be undertaken without any immediate intent to implement selective service.

Within these various "mission areas," one can also visualize only certain aspects being involved at different mobilization levels. For instance, one of the most likely forms of constrained military mobilization (in response, say, to some ambiguous triggering event) would be to increase the readiness of existing forces. Under present severely constrained defense budgets, this could require the hurry-up provision of greater stocks of spares and secondary items, or of training munitions by which to enhance operational training levels. Such precautionary steps may be in order way before a specific war threat becomes obvious. At the other end of the spectrum, the situation might have become grave enough to suggest the need to expropriate civil assets for military conversion and use, or even--as discussed earlier--a decision to begin a substantial civil defense shelter program.

A SAMPLE TAXONOMY FOR NATIONAL MOBILIZATION ANALYSIS

MOBILIZATION SCOPE
• short-term (0-90 days)
• mid-term (0-12 mos)
• long-term (0-4 yrs)
• current/ new funds
• current/ new agencies
• current/ new forces
• "low-mix"/ "high-mix"
• 1/2/3 shift week
• current/ new plant
• modest/ major economic impact
• current/ new war powers
• total national effort
• total Western effort

MOBILIZATION CONSTRAINT
• existing plans
• existing organization
• existing training
• critical components
• production bottlenecks
• tools & test equipment
• skilled manpower
• floor space
• energy
• transportation
• regulations/ priorities
• economic impact
• raw materials

MOBILIZATION IMPROVEMENTS
• new national guidance
• clearer priorities
• new legislation
• capitalization incentives
• multi-year procurements
• better stockpiling
• dedicated funds (FEMA)
• more tooling/test equipment
• more floor space
• substitution RDT&E
• civil conversion kits
• civil affiliates
• new mobilization designs

A Sample Taxonomy for National Mobilization Analysis (Continued)

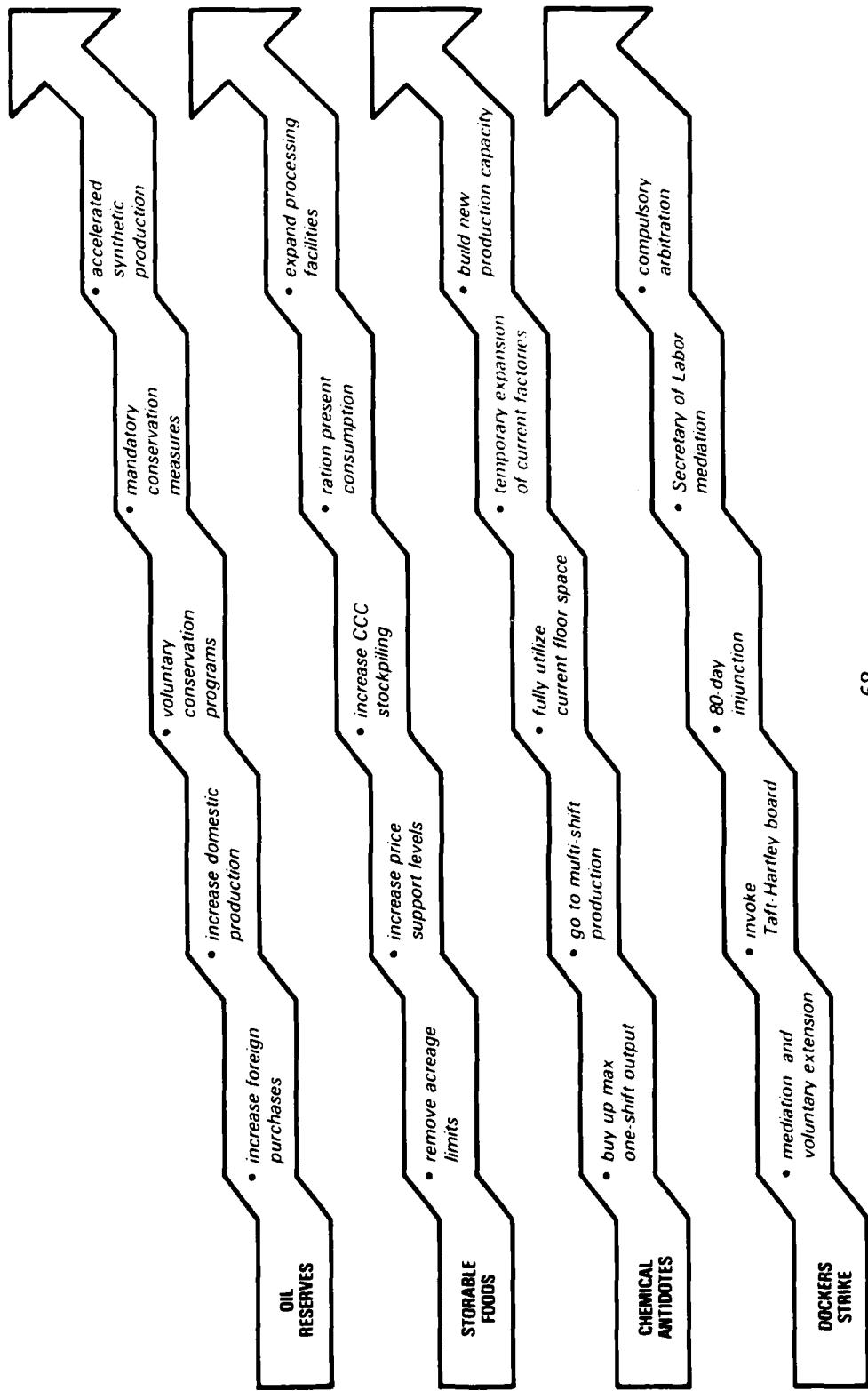
Many other kinds of decisions may be involved in instigating national or regional mobilization efforts. For instance, the scope of a specific mobilization effort could be directed toward only short-term efforts. It could be accomplished under reprogrammed funds or large new appropriations. It could entail only existing industrial facilities or the conversion/construction of new assets. The number of work shifts could be kept flexible. And the mobilization could entail only the U.S., or it might involve our allies as well.

Constraints that could inhibit a mobilization effort might be imposed by limited planning, training, tooling, floor space, or other real-world limitations. Analysis would bring to light any number of initiatives that could improve our mobilization posture. There is a strong need for new national guidance, as well as to provide research and development funds to develop alternate/substitute components and/or complete weapons to get around serious existing bottlenecks. In many areas, we do not really know what those constraints are.

It is not clear whether many mobilization efforts should be "supply-driven" or "demand-driven." In many quarters there exist assumptions that military "requirements" are both definable and immutable; neither assumption is correct. There are virtually endless trade-offs and uncertainties as to both the quantities and qualities of supplies needed to prosecute a war. There has been little give-and-take between "tell me what you need" and "tell me what you can give me." Other studies have suggested that the extent to which the U.S. can accomplish a rapid mobilization may depend on its ability to adapt both items and production techniques from the ubiquitous civil sector. The civil agencies and departments seem to have a far better understanding of the opportunities for innovation in creating solutions to ad hoc problems. Equivalent efforts are warranted on the military side.

CHART SET D

**ILLUSTRATIVE ESCALATION STEPS
FOR ECONOMIC MOBILIZATION**



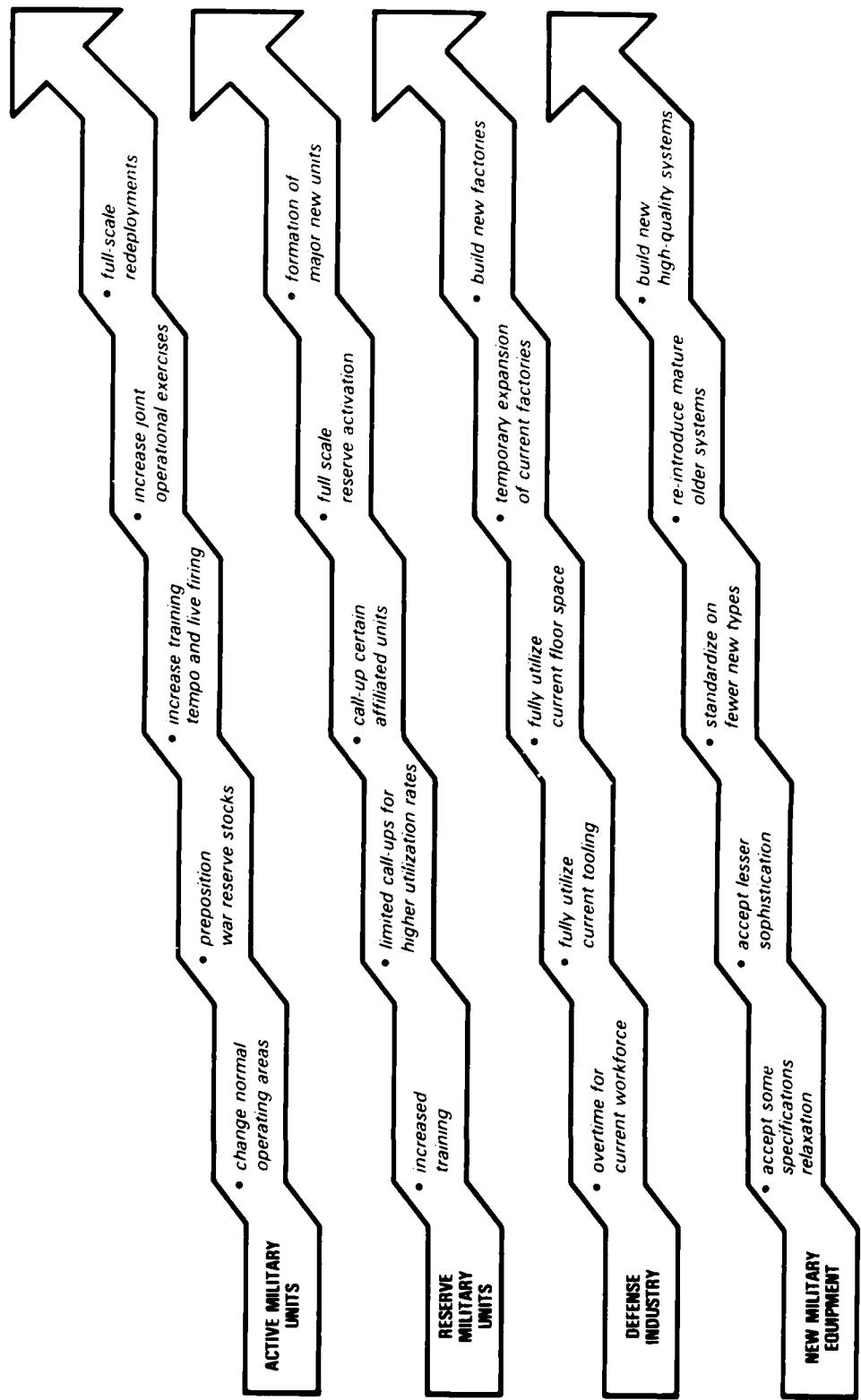
ILLUSTRATIVE ESCALATION STEPS FOR ECONOMIC MOBILIZATION

The next four charts illustrate the concept of graduated steps in mobilization responses. With great effort, it might be possible to define rigorously a suitable set of "escalation steps" for every possible facet of every aspect of national mobilization. One could then further analyse the output that might be associated with each ratcheting of the input variables. For most agencies, these steps and the resulting outputs appear generally understood--even though most agencies have no formal obligation to assess their industries' capacities, and no direct control other than "market forces" for the generation of needed output.

However, the Defense Department and the defense industry are not well prepared to evaluate output potential of "normal" military equipments, and have given virtually no thought to demands of a sudden civil defense program. More planning and assessment are needed since these demands could be very large. Only minor consideration has been given to the possible problems associated with industrial concentrations (such as "Silicon Valley"), which might be vulnerable to either peacetime or wartime output interruption. The dispersal of such concentrations might be an appropriate topic for mobilization planning.

The facing chart provides four disparate examples of plausible mobilization steps associated with different aspects of the economic mobilization spectrum, including the possible decision to rapidly increase oil reserves, food stockpiles, or chemical antidote supplies. It also suggests possible steps for dealing with a major strike. The accuracy of the steps shown is not important to this conceptual framework--only the concept of partial and controlled mobilization responses is at issue.

ILLUSTRATIVE ESCALATION STEPS FOR MILITARY MOBILIZATION



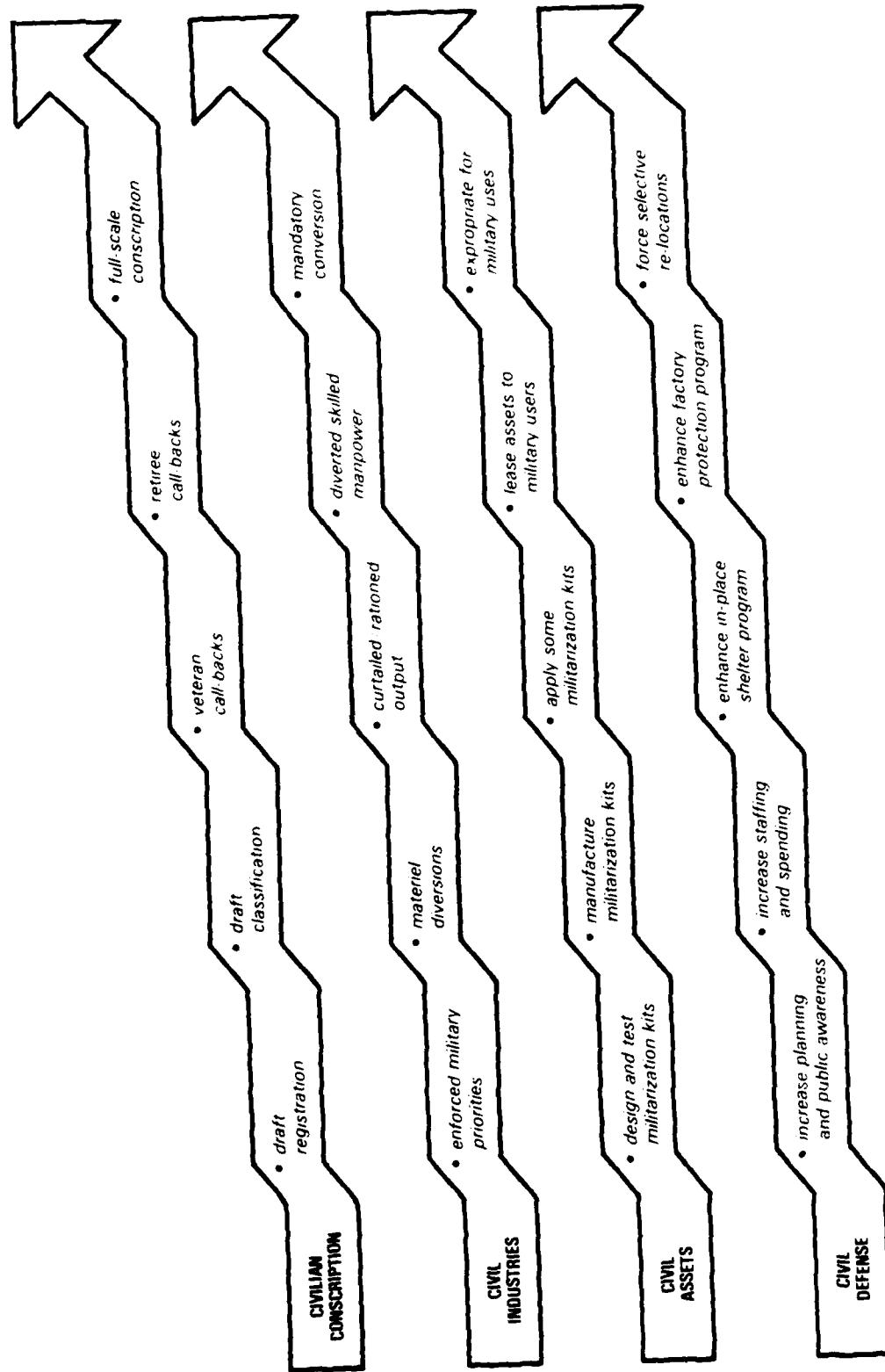
Illustrative Escalation Steps For Military Mobilization (Continued)

This chart demonstrates equivalent steps for various facets of military mobilization, including active and reserve forces, the defense industry, and new types of military equipment that might be produced in response to a specific threat. As in the prior case, it seems more appropriate to select escalation steps by their input implications rather than some arbitrary output demand--particularly if the demand level is within the total national capability. When President Roosevelt called for the production of 100,000 aircraft per year, the intent was clearly to establish a new and probably "ultimate" capability for aircraft production. Certainly no one had told the President the exact number needed for a war not yet fully engaged. Some aircraft plants were later apologetically asked to slow down their production when it exceeded useful levels.

Although many movements and changes are normal, certain redeployment and changed operational tempos may be considered mobilization for active forces--if a significant reallocation of resources is involved. The retention of a large naval carrier task force in the Indian Ocean fits this latter category. Failure to gear up certain supporting capabilities could eventually produce a serious draw-down in long-term force sustainability for the U.S. Navy.

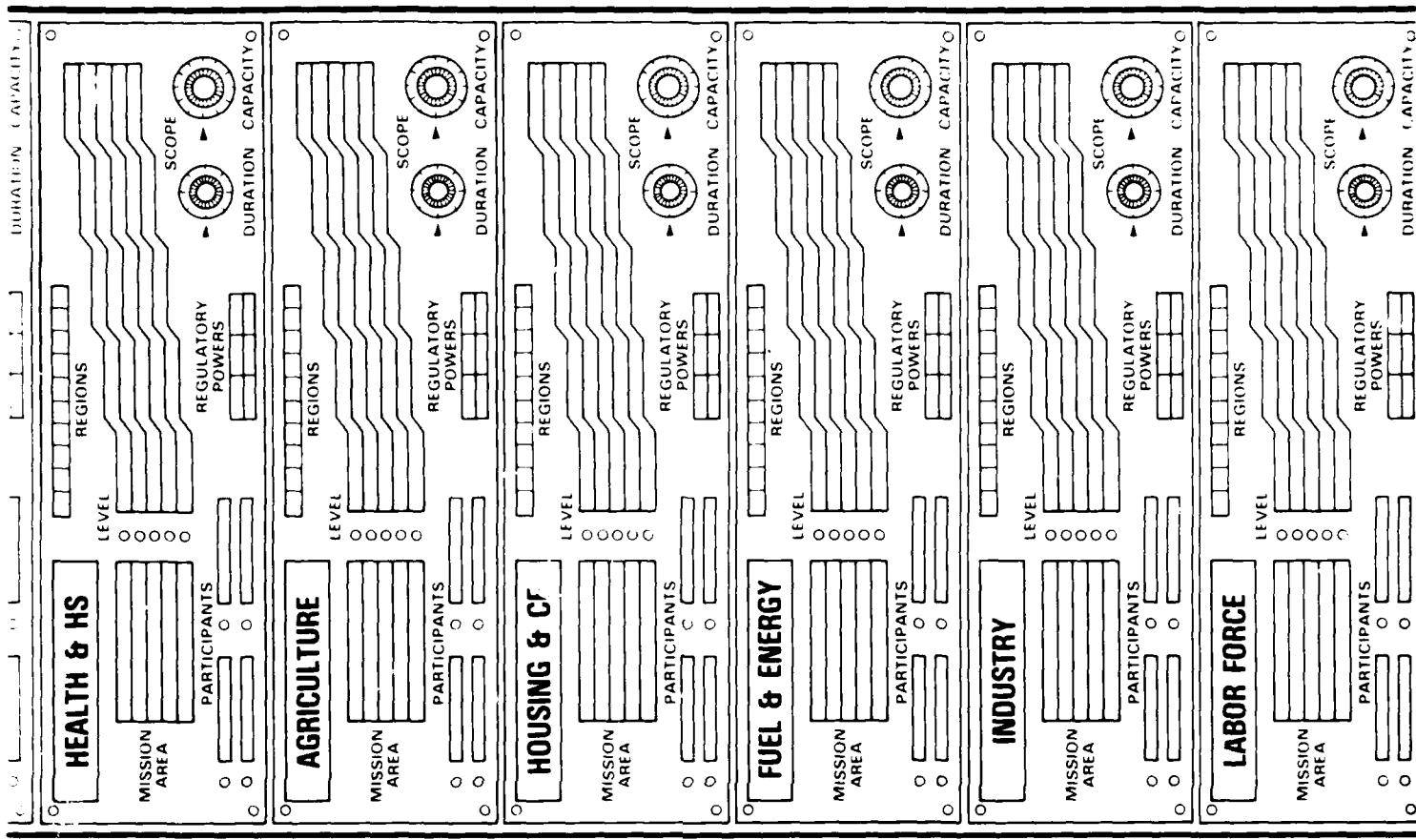
At the other end of the military spectrum, the possible desirability of creating new military equipments on short notice should not be overlooked. These arms generally would be at the simpler end of the sophistication and training spectrum. Such requirements might arise if a decision were made to arm all West German citizens--or the Chinese Army--with anti-tank weapons. In the context of U.S. production capabilities, these simple arms would probably have to be produced by the civil sector industry. Currently, there are no such military mobilization plans.

ILLUSTRATIVE ESCALATION STEPS FOR MILITARY MOBILIZATION (Continued)



Illustrative Escalation Steps For Military Mobilization (Continued)

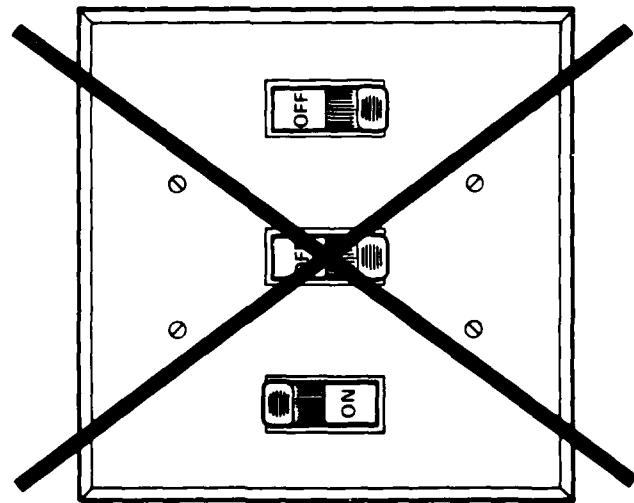
This chart illustrates the mobilization of civil assets to satisfy military demands. Conscription, the conversion of civil industries, the adaptation of civil assets, and the execution of a meaningful civil defense program are typical examples. There are presently few mechanisms for the realignment of civil resources towards military needs. This is particularly unfortunate, since the ultimate strength of our Western societies clearly lies within our civil capabilities and not our military prowess; the reverse is true for the Soviet Union. It is not clear under what conditions the U.S. Government can commander civil assets, or whether it is reasonable to follow such a course only as a last resort. The entire process of moving from a free enterprise system to a controlled economy may be particularly difficult to harmonize over a broad range of limited mobilization options.



74



U.S. MOBILIZATION CONTROL CONSOLE



U.S. Mobilization "Control Console"

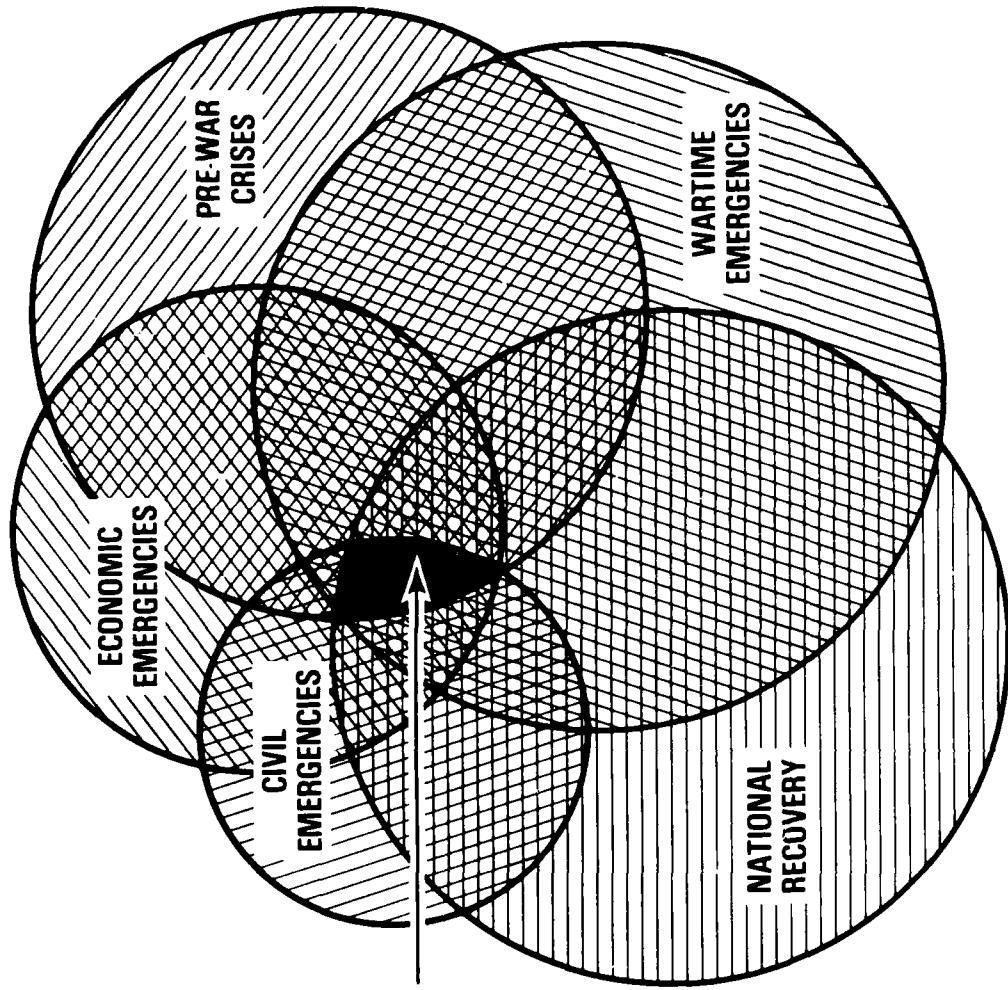
The final chart in this set shows the full complexity of many different mobilization options that exist across the entire spectrum, and is a compilation of many of the factors discussed on the previous charts. It suggests that each different government agency may be called upon to execute some level of mobilization in one or more of its mission areas, involving different participants, possibly different regions, and various capability limits for differing durations.

Understanding the full range of mobilization options, recognizing their political impact, determining which are compatible and knowing the total impact of different input and output parameters are primary tasks for the new Federal Emergency Management Agency, working with all the diverse governmental elements who share some implementing responsibilities. A dynamic and flexible national mobilization capability can provide an increasingly valuable instrument of national policy. The evolution of this conceptual framework may be helpful in generating a common perception of how much needs to be done, and how useful it might be.

CHART SET E

POLICY OPTIONS

Continuity of Government



POLICY OPTIONS

This final set of charts presents a superficial set of policy options that could have an impact on our national mobilization capabilities and hence on our abilities to reduce the effects of both military and non-military emergencies on the fabric and security of the United States. These policy options have evolved in part as a result of the disciplines enforced by the development and application of the conceptual framework.

This first chart indicates that, although each of the major categories of contingencies can be described as a separate entity, there remains a strong degree of overlap in the functional requirements generated by each. All phases have some functions in common: in the worst case, this involves the very continuity of government by which major decisions are made and policies implemented. In the lesser contingencies, continuity of government in the sense of nuclear catastrophe does not present a concern, although continuity of management across the spectrum of possible emergencies appears strongly desirable.

On the four charts that follow, sets of policy options are listed for each of the major contingency categories. Each is assessed from the standpoint of its impact on emergency management, national survival and recovery, and crisis prevention and response. This assessment is in purely qualitative terms of "much better," "somewhat better," "little difference," "somewhat worse," and "much worse." The judgments are little more than the opinions of the report writers and are intended to be illustrative, not authoritative. They are provided mainly to allow some crude ranking by each of what are believed to be the four important criteria for such an assessment.

POLICY OPTIONS

CIVIL/ECONOMIC EMERGENCIES

- Greater reserves of materials to cope with civil emergencies
- Maximization of "overlap" between civil and security emergencies to streamline and more frequently exercise overall federal emergency command structure
- Greater use of military resources to mitigate civil emergencies
- Requirement that certain civil emergencies trigger precautionary security measures
- Greater in-depth analysis of mechanisms to successfully wage "economic warfare"
- Development of intermediate states of emergency between "disaster" and "National Emergency"
- Greater attention to the use of civil assets/resources to solve military emergency needs
- Better orchestration of international economics to mitigate economic disruptions
- Improved mechanisms for graduated moves from free to controlled economy

POLICY IMPACT	CRISIS RESPONSE				
	CRISIS PREVENTION				
SURVIVAL/RECOVERY					MANAGEMENT
Much better	0				
Somewhat better	0				
Little difference					
Somewhat worse	x				
Much worse	x				

Policy Options Civil & Economic Emergencies

Nine different policy issues that arise when looking at various civil and economic crises within the context of the entire spectrum of possible contingencies are displayed on this chart. The first set of options concerns opportunities to more closely relate civil and military emergencies. In official documentation, the two categories of emergencies are kept separate, which in no way means that mutual cooperation does not exist. The military are deeply involved in everything from automobile and train accidents to the St. Helen's eruptions, and the recovery of the dead from the Jones/Guyana debacle. Nevertheless, there may be important opportunities for even closer cooperation--particularly if the Reagan Administration succeeds in shifting federal resources from the civil sector into our national defenses. Civil emergencies provide opportunities for the military to exercise their readiness and become integrated into community affairs. Such participation might well be expanded; modification to the Posse Comitatus Act could be useful in this regard.

The second set of options deals with a clearly expanding requirement for coping with economic emergencies of greater scale and more far-reaching implications than have been evident heretofore. The use of "economic warfare," threatened in Carter's inaugural address and practiced during his administration, will require far more sophisticated techniques and applications than have been evident to date. Furthermore, there are growing opportunities to apply civil assets to military needs--most obviously in the areas of transportation and communications. The current push away from ever-increasing government spending may suggest more opportunities for dual-use assets, if each sector is willing to make some compromises. Such exploration would appear to be an appropriate area for FEMA to stimulate in the involved agencies. Such dual use is certain, however, to raise questions of the government control of the civil sector. It may therefore be necessary to legally adopt additional gradations of emergencies between regional disasters and federal emergencies.

POLICY OPTIONS

PREWAR CRISIS MOBILIZATION

- Greater national emphasis on recognizing and using strategic warning
- Development of "stable signaling" through mobilization as a deterrent
- Greater emphasis on predicting Soviet reactions to U.S. mobilization steps
- Earmarking of certain weapons for mobilization concentration
- Greater peacetime RDT&E on eliminating potential mobilization bottlenecks
- Development of special capabilities to surge production of chemical/biological warfare equipment
- Weapon procurement in advance of foreign transfers
- Peacetime procurement of expendables for a "long" conventional war
- Control of peacetime factory/machine utilization rates to protect mobilization surge
- Pegging of mobilization levels to worker/factory utilization rates vice production rates
- Adoption of a plan for "shelter surge program" to insure "mix" of evacuees vs. shelterees for cases of increased warning time
- Adoption of a plan for a surge program to harden key industries
- Adoption of a plan for emergency food reserves and postwar agricultural recovery
- Better definition of criteria for adequate "continuity of government" (COG) efforts
- Greater efforts to "pre-program" or diminish COG functions
- Greater efforts to coordinate and encourage allied mobilization efforts

POLICY IMPACT	CRISIS RESPONSE				
	CRISIS PREVENTION	SURVIVAL/RECOVERY	MANAGEMENT	MANAGEMENT	MANAGEMENT
Much better	0	0	0	0	0
Somewhat better	0	0	0	0	0
Little difference	0	0	0	0	0
Somewhat worse	x	0	0	0	0
Much worse	x	0	0	0	0

Policy Options: Pre-War Crisis Mobilization

Once it is accepted government policy that it will be necessary and desirable to mobilize for a broad variety of military contingencies, the number of policy options are almost limitless.

If mobilization efforts are to be successful, attention should focus on reacting to strategic warning--in a fashion that signals our displeasure without seriously "destabilizing" superpower relations. There are clear needs to be selective about what kinds of systems to produce in greater quantity, as well as to learn how to bypass various current production bottlenecks. There are also needs to stockpile war reserve items for the possibility of a longer war, and for the need to make substantial arms transfers (as in World War II) to allies sharing the burden. There are many things that can be done to protect a greater production "surge."

There are also strong needs to adopt a more realistic philosophy about the possibilities of nuclear warfighting. Such considerations will lead rapidly to concepts of surging shelter and industrial protection plans, as well as revisiting the entire concept of "crisis relocation planning." Studies of potential warfighting damage also indicate the need to plan for stockpiling of foodstuffs, and to assure the ability to regenerate crops and herds in a relatively short time.

Issues concerning continuity of the Federal Government and its essential functions are not any better conceived than those for population relocation. Both have been developed primarily for a nuclear "spasm war" and not for a protracted and selective exchange that might continue for long periods.

Additionally, as mentioned before, there are only vestigal plans for cooperative mobilization efforts between ourselves and our allies. Most of our "critical" requirements for the support of a major NATO contingency evolve from an unwillingness of our European allies to establish better military mobilization programs of their own. Despite current tensions in the alliance, better and more equitable burden sharing is in order.

POLICY OPTIONS

WARTIME MOBILIZATION

- Continuation of pre-war efforts
- Provision of greater sustaining capabilities for current nuclear forces
- Development of automatic trigger responses to first use of tactical nuclear weapons
- Surge of production capability for additional nuclear weapons and delivery vehicles
- Development of techniques to estimate when a protracted nuclear exchange is over
- Development of criteria for the retention of nuclear reserves
- Definition of potential requirements for conducting "residual warfare" after nuclear exchanges
- Consideration of post-nuclear phase alliance shifts
- Definition of requirements for military forces in the immediate postwar period

POLICY IMPACT	MUCH BETTER	SOMEWHAT BETTER	SLIGHT DIFFERENCE	SOMEWHAT WORSE	MUCH WORSE	CRISES RESPONSE	CRISES PREVENTION	SURVIVAL/RECOVERY	MANAGEMENT
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0

Policy Options: Wartime Mobilization

The options on this chart are essentially continuations of efforts recommended for initiation during some pre-war crises. The actual onset of hostilities, either directly between the superpowers or between combinations of clients and superpowers, would almost warrant the full utilization of remaining national mobilization capabilities.

Conceptualization of actual nuclear warfighting will surely lead to considerations of the option to enhance nuclear weaponry in a short period of time, and to be able to maintain our strategic nuclear arsenal on alert for a protracted period. Such analysis also leads to concern for how one can tell when a nuclear exchange has been terminated--and for more detailed evaluation of what constitutes a satisfactory nuclear reserve force. It is unlikely that either side alone would be willing to totally denude its nuclear arsenal. There is also a need to better define the needs for conducting "residual warfare" in a post-nuclear phase, to examine possible realignments of surviving nations, and to consider the possible uses for sustaining military forces in the national recovery phase.

Some of these issues may appear too esoteric and "far-out." The intention is to foster considerations of the full range of warfighting needs that may confront the U.S. and her allies in the future. There is no implication that each of the considerations outlined here should result in a major national security program--only that such thoughts can lead to a more practical and realistic understanding of the consequences of addressing warfighting rather than declaratory deterrence. It is these considerations that strongly suggest we should be able to react to external events as though we were fully cognizant of the warfighting implications. Such perceptions of U.S. resolve may be the best deterrent we can develop in the future.

POLICY OPTIONS

NATIONAL RECOVERY

- Negotiation of national recovery treaties with potential postwar benefactor nations
- Maintenance of U.S. fund reserves overseas to pay for postwar recovery assistance
- Stockpiling of surplus (possibly obsolete) materials and tools--hardened
- Maintenance of plans to encourage immigration to U.S. to hasten national recovery

POLICY IMPACT		CRISIS RESPONSE				
		CRISIS PREVENTION				
		SURVIVAL/RECOVERY				
MANAGEMENT		Much better	0	0	0	0
		Somewhat better	0	0	0	0
		Little difference	0	0	0	0
		Somewhat worse	x	x	x	x
		Much worse	x	x	x	x

Policy Options: National Recovery

A long-standing American philosophy that nuclear war is too horrible to contemplate has resulted in failure to consider the subsequent requirements for national recovery--which may in fact be competitive, as both sides seek to recover. There seems to be little doubt that the Soviets sense our lack of will to devote resources to post-attack and post-war recovery. In Soviet calculations, this helps to shift the correlation of forces towards their own camp. They may well overestimate their ability to recover from a major nuclear strike, but they certainly have not concluded that it is hopeless. We should consider adopting the same policy.

Even a superficial review of national recovery demands indicates that we could be strongly helped by outside friends and allies. Just as the Marshal Plan was helpful to Europe in the aftermath of World War II, external resources may again be the key to rapid recovery. One wonders whether any pre-war steps should be taken to assure such cooperation, or to preposition American financial assets in areas of unlikely involvement.

Thought also needs to be applied to the possible conflicting demands between enhancing wartime production and improving the chances that some industrial machinery would survive the exchanges. Finally, it is not unreasonable that our national recovery might be substantially aided by an influx of workers anxious to find employment. Both the Turks in West Germany and the Koreans in Saudi Arabia demonstrate the use of foreign labor to enhance national recovery/expansion.

Exhaustive treatment of many of the questions raised herein was not expected within the limited scope of this contract. As with our former contract in this area, we have been encouraged to favor breadth rather than depth. However, this work has raised a number of interesting questions. The U.S. will be more secure if some of them are addressed in greater depth by those most qualified to do so. SPC would be pleased to be part of such a continuing effort.

CONCLUSIONS

1. The general concept of the "conceptual framework" as outlined in this report should be accepted by FEMA management as a reasonable portrayal of the scope of mobilization issues for which this country should be prepared, and for which FEMA-encouraged or -supported research is justified.
2. Many of the basic "tenets" outlined at the beginning of this report should be incorporated into some new top-level Federal Emergency Preparedness Policy and Planning guidance document, for dissemination throughout the federal bureaucracy involved in emergency preparedness and mobilization activities.
3. The basic need of using national emergency preparedness and mobilization capabilities as a major instrument of national policy should be enunciated by the President and certified by the Congress of the United States.
4. The Office of Management and Budget should be redirected to assure that all federal departments and agencies have appropriate emergency preparedness organizations with sufficient funding, staffing, and visibility to accomplish their missions in an era of high national vulnerabilities and neutral power balance.
5. The Federal Emergency Management Agency should be encouraged to step up to the full range of responsibilities implicit in its mandate. To the extent that current legislation hampers the execution of these responsibilities, new language should be proposed for congressional consideration.
6. The Congress should be encouraged to provide delegate agency funding sources so that FEMA can stimulate needed research, planning, and emergency preparedness without requesting that federal departments reprogram existing funds.
7. The new administration should encourage the National Security Council to adopt a more realistic range of contingencies and emergency phases (not detailed scenarios) toward which mobilization planning should be directed.

AREAS DESERVING FURTHER STUDY

8. There is a need for a substantial amount of research and analysis pertinent to establishing a meaningful contemporary national mobilization capability. Among those policy programs that appear to deserve high priority at the present time are the following:
 - The development of a more realistic set of contingencies against which to authorize national mobilization planning. This work would involve the development of the fullest possible spectrum of crisis/conflict situations and their consequences, synthesizing a comprehensive set of partial and maximum civil/military mobilization demands, and evaluating the impact of adopting these various "limit cases" on U.S. mobilization plans and policies.
 - A comprehensive search of existing documentation and legislation to uncover and highlight current conflicts and omissions in both laws and national guidance, which inhibit the development of a truly vital national emergency capability.
 - The development of a suitable, highly flexible management technique and organization within the FEMA by which to:
 - provide suitable early warning and trigger mechanisms to assure the initiation of appropriate mobilization efforts in the most timely fashion;
 - provide responsive assessments of the implications of various threatened crises and/or emergencies with full understanding of the subtle interrelations between the various strands of the national fabric; and
 - guide and coordinate the overall activities of the Federal Government in preparation for, or in response to, crises and emergencies warranting federal attention and interdepartmental liaison.

THE STATE OF THE ART

The authors of this report reluctantly note that:

- There is little agreement on the scope and content of an "ideal" FEMA research and analysis program.
- There appears to be little confidence that the current FEMA structure and management is prepared to fulfill the total range of responsibilities implicit in FEMA's basic "charter."
- There is no agreement on the scope, or even the definition, of most mobilization-related activities and terms.
- There is broad disagreement on the total span of emergencies for which the country should be prepared, although the civil agencies appear better prepared to deal with non-defense-related crises; existing legislation appears inadequate and confusing.
- The past lack of Defense Department interest in a broad range of mobilization options leaves DoD ill-prepared to take the lead at this time.
- The current NSC-approved "five scenarios" are widely considered to be inadequate for their stated purpose--if not counterproductive.
- There seems to be general agreement that plans and preparations for the execution of a meaningful civil defense program simply do not exist.

ABBREVIATIONS

CAB	-	Civil Aeronautics Board
CIA	-	Central Intelligence Agency
DOC	-	Department of Commerce
DOD	-	Department of Defense
DOE	-	Department of Energy
DHHS	-	Department of Health and Human Services
DHUD	-	Department of Housing and Urban Development
DOI	-	Department of the Interior
DOJ	-	Department of Justice
DOL	-	Department of Labor
DOT	-	Department of Transportation
FCA	-	Farm Credit Administration
FCC	-	Federal Communications Commission
FDIC	-	Federal Deposit Insurance Corporation
FHLBB	-	Federal Home Loan Bank Board
FRS	-	Federal Reserve System
GSA	-	General Services Administration
ICC	-	Interstate Commerce Commission
NASA	-	National Aeronautics and Space Administration
NCUA	-	National Credit Union Administration
OMB	-	Office of Management and Budget
OPM	-	Office of Personnel Management
OST	-	Office of the Secretary of Transportation
OSTP	-	Office of Science and Technology Policy
SEC	-	Securities and Exchange Commission
SBA	-	Small Business Administration
State	-	Department of State
TREAS	-	Department of the Treasury
TVA	-	Tennessee Valley Authority
USDA	-	Department of Agriculture
USPS	-	United States Postal Service
VA	-	Veterans Administration

BIBLIOGRAPHY

1. Bailleau, O. C., "Nuclear War: A Soviet Option," Part II, Foresight Winter 1977, Defense Civil Preparedness Agency pub.
2. Baumbausch, Geneese G., A New Approach to Defense Industrial Planning: Briefing Documentation, Rand N-1021-AF, May 1979.
3. Feinberg, Abe, Civil Preparedness and Post-Attack U.S. Economy Recovery: A State of the Art Assessment, Analytical Assessment Corp., October 1979.
4. Flaika, John J., "The Grim Lesson of Nifty Nugget," Army, April 1980.
5. Fromm, Gary, Charles H. Movit, Development of Analytical Systems for Evaluation of U.S. Reconstruction and Recovery Programs, SRI International CEP4-TN-7932-1, September 1980.
6. Gastil, Raymond D., An Analysis of the Possible Contribution of a Civil Defense Tension Mobilization Base to Civil Defense, Hudson Institute, HI-926/4-1212, August 1968.
7. Jenkins, Brian M., "Nuclear Terrorism and Its Consequences," Society, vol. 17, No. 5, July/August 1980.
8. Hill, Gary A., Peter C. Gardiner, Managing the U.S. Economy in a Post Attack Environment: A System Dynamics Model of Viability, Analytical Assessments Corp., November 1979.
9. Larrino, Richard, Frank Trinkel, Francis Dresch, Key Economic Problems and Guidelines for Crisis Relocation, Center for Planning and Research, Inc., June 1980.
10. Macy, John W. Jr., Director, Federal Emergency Management Agency, A New Impetus Emergency Management for Attack Preparedness, Undated.
11. Miller, Michael D., Meeting Industrial Adequacy for a Surge in Military Demand: An Input-Output Approach, Rand R-2281-AF, September 1978.

12. Northrup, John A., The Role of Civil Preparedness in Nuclear Terrorism Mitigation Planning, Systems, Science, and Software, September 1979.
13. Quester, George G., Option for Accelerating Economic Recovery After Nuclear Attack, Analytic Assessments Corp., July 1979.
14. U.S. Department of the Army, The Army Library, Mobilization: Industrial, July 1980.
15. U.S. Federal Emergency Management Agency, Federal Register, Rules and Regulations, "Radiological Emergency Response Planning and Preparedness," Interim Regulation and Request for Comment, October 22, 1980.
16. U.S. General Services Administration, Federal Preparedness Agency, Federal Response Plan for Peacetime Nuclear Emergencies (Interim Guidance), April 1977.
17. U.S. Office of Emergency Planning, The National Plan for Emergency Preparedness, December 1964.
18. U.S. President, Executive Order 11051, Federal Register, September 27, 1962.
19. U.S. President, Executive Order 11490, Federal Register, October 28, 1969.
20. U.S. President, Executive Order 11921, Federal Register, June 15, 1976.
21. U.S. President, Executive Order 12127, Federal Register, March 31, 1979.
22. U.S. President, Executive Order 12148, Federal Register, July 20, 1979.
23. U.S. President, Reorganization Plan No. 3 of 1978, Federal Register, June 19, 1978.

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Dr. John Billheimer
Systan, Inc.
P. O. Box U
Los Altos, CA 94022

Dr. Murray Rosenthal
System Development Corporation
2500 Colorado Avenue
Santa Monica, CA 90406

Headquarters USAF
ATTN: H. A. Quinn
Pentagon 1D384
Washington, D.C. 20330

Office of Joint Chiefs of Staff, J
Pentagon 1D937A
Washington, D.C. 20301

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Chicago, IL 60616

Stanford Research Institute
ATTN: Francis W. Dresch
Mr. Robert Rodden
Menlo Park, CA 94025
(2)

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Quaker Ridge Road
Crotton-on-Hudson, NY 10520

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San Mateo, CA 94402

Dr. Joseph E. Minor
Director, Institute for Disaster Research
College of Engineering
Texas Tech University
P. O. Box 4089
Lubbock, TX 79409

Mr. Robert A. Merchant
Chief, Emergency Planning Staff
Office of the Secretary of the Treasury
Washington, D.C. 20220

Mr. Robert Harker
Systan, Inc.
343 2nd Street
P. O. Box U
Los Altos, California 94022

Institute for Defense Analyses
400 Army-Navy Drive
Arlington, VA 22202
(2)

Dr. William W. Chenault
Human Science Research, Inc.
Westgate Research Park
7710 Old Springhouse Road
McLean, VA 22101

Defense Intelligence Agency
ATTN: DS-4A2
Washington, D.C. 20301
(2)

Mr. Richard K. Laurino
Center for Planning and Research, Inc.
2483 East Bayshore Road
Palo Alto, CA 94304

Research Triangle Institute
ATTN: Robert Hendry
Mr. Don Johnston
Post Office 12194
Research Triangle Park, NC 27709 (2)

Mr. Harry Gainter
Board of Governors for the Federal
Reserve System
Washington, D.C. 20551

Defense Nuclear Agency
ATTN: VLWS
Washington, D.C. 20305

Jerome W. Weinstein
Defense Intelligence Agency
ATTN: DR-4N
DS-6A
Washington, D.C. 20301 (2)

Mr. Richard B. Foster
Strategic Studies Center
SRI International
1611 N. Kent Street
Arlington, VA 22209

Mr. Mark Earle, Jr.
Director, Center for Economic Policy
Research-Menlo Park
SRI International
333 Ravenswood
Menlo Park, CA 94025

Mr. Howard Berger
Analytical Assessments Corporation
P. O. Box 9758
Marina del Rey, CA 90291

Mr. Byron F. Doenges
U.S. Arms Control & Disarmament Agency
320 21st St., N.W.
Washington, D.C. 20451

LTC Jon Gross
OED Atomic Energy
3C125 Pentagon
Washington, D.C. 20337

LTC Donald C. Anselm
COPRA
OJCS/SAGA
Pentagon
Washington, D.C. 20301 (2)

General Leslie Bray
The Analytic Sciences Corporation
1601 N. Kent Street
Suite 1201
Arlington, VA 22209

Mr. Leonard Sullivan, Jr.
System Planning Corporation
1500 Wilson Boulevard
Arlington, VA 22209

David H. Thomas II
Lt. Col., U.S. Air Force
Defense Nuclear Agency
Vulnerability Directorate
6801 Telegraph Road
Alexandria, VA 22310

Mr. Andrew W. Marshall
Office of the Secretary of Defense
Room 3A930 Pentagon
Department of Defense
Washington, D.C. 20337

Mr. James P. Wade
ATTN: Dr. James P. Wade
Washington, D.C. 20301

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